ROBERT GORDON UNIVERSITY ABERDEEN

OpenAIR@RGU

The Open Access Institutional Repository at Robert Gordon University

http://openair.rgu.ac.uk

Citation Details

Citation for the version of the work held in 'OpenAIR@RGU':

TIJJANI, G.M., 2014. An empirical investigation of the regulatory governance practice of Nigeria's downstream petroleum sector. Available from *OpenAIR@RGU*. [online]. Available from: http://openair.rgu.ac.uk

Copyright

Items in 'OpenAIR@RGU', Robert Gordon University Open Access Institutional Repository, are protected by copyright and intellectual property law. If you believe that any material held in 'OpenAIR@RGU' infringes copyright, please contact openair-help@rgu.ac.uk with details. The item will be removed from the repository while the claim is investigated.

An Empirical Investigation of the Regulatory Governance Practice of Nigeria's Downstream Petroleum Sector

By

Ghali Mustapha Tijjani

A Thesis submitted in partial fulfilment of the requirements of Robert Gordon University for the Degree of Doctor of Philosophy

Aberdeen Business School
Robert Gordon University
Aberdeen, United Kingdom

July 2014

Dedication

In memory of my late father ***Mallam Tijjani Bello Panda,*** *in honour of my mother* ***Jamila M. Tijjani Panda*** *and in appreciation of all the* ***people of Panda Town****.*

Acknowledgment

I am most grateful to Almighty God for his absolute protection and abundant wisdom that he has bestowed on me during this program and throughout my entire life. The effort of the Petroleum Technology Development Fund (PTDF) for sponsoring this research is highly commendable.

I am thankful to my supervisors, Dr Labaran Lawal and Professor Alex Russell for their critical, analytical, probing, incisive and useful comments and I appreciate them taking the time to scrutinize all the scripts up to this logical conclusion. I pray to God to bless them with more abundant wisdom.

I would like to express my indebtedness to my wife Humaira Ghali Tijjani for her love, guidance and prayers. I am also very appreciative to my parents, late Mallam Tijjani Bello and Jamila M. Tijjani, my brothers Mustapha Tijjani, Salman Tijjani and Nazifi Tijjani, and my sisters Hajjara Tijjani and Sauda Tijjani for their spiritual, moral and financial support, guidance, love, and affection shown to me throughout my life.

I am grateful to Hon. Usman Adamu, Hon. Musa Tahir, Hon. Aliyu Ahmad Wadada, Abba Sule, Saqab Mohammed, Adamu Abba, Sani Usman, Tukur Wada, Sale Sule, Murtala Jafaru, Jamilu Mohammed, Abdul'aziz Tahir and Inusa Jafaru for their constant advice. My appreciation also goes to Adamu Jega, Aliyu Ahidjo, Emmanuel Ogunewe, Rashida Saleh, Muntari Zubairu and Aliyu Yusuf for their support and more specifically for their positive interest in my academic study.

I am also indebted to my colleagues, particularly the efforts of Adam Kyari, Sani Sa'idu, Ibraheem Adam, Ahmad Butu, Rabi'u Ado, Suraj Muhammed, Isa Ali Pantami, Umar Lawan, Zainab Musa, Kalli Zannah, Mas'ud Ibrahim, Shola Ajide, Karan Dakup, Mas'ud Bala, Najeeb Gambo, Bashir Gafai and Omo Adeola for their constructive comments and advice during the completion of this academic study.

Contents

Dedication i
Acknowledgment ii
Abbreviations xiii
List of figures xiii
List of tables xiii
CHAPTER ONE 1
Introduction 1
1.1 Preamble 1
1.2 Objectives and research questions of the study 3
1.3 Research hypotheses 7
1.3.1 Originality, significance and expected contributions of the study 8
1.3.2 Theoretical framework and research methodology 9
1.3.3 Structure of the thesis 10
CHAPTER TWO 13
An overview of regulatory governance 13
2.1 Introduction 13
2.2 The need for economic regulation 13
2.3 The concept of regulatory governance 16
2.4 The framework of good regulatory governance system 23
2.4.1 Regulatory independence 24
2.4.2 Regulatory accountability 25
2.4.3 Regulatory transparency 26
2.4.4 Regulatory expertise 27
2.5 Conclusion 28
CHAPTER THREE 29
Nigeria's downstream petroleum sector: an overview 29
3.1 Introduction 29
3.2 Historical development of the downstream petroleum sector in Nigeria 29
3.3 Structure of Nigeria's downstream petroleum sector 31
3.3.1 The regulation of Nigeria's downstream petroleum sector 35
3.4 The downstream regulatory agencies 38
3.4.1 Department of Petroleum Resources 39
3.4.1.1 The DPR's downstream regulatory functions 40
3.4.2 Petroleum Product Pricing Regulatory Agency 42
3.4.2.1 The regulatory functions of the PPPRA as set out in the 2003 Act 45

3.4.3 Petroleum Equalisation Fund 46
3.4.3.1 The regulatory functions of the Petroleum Equalisation Fund 49
3.5 Regulatory governance in the petroleum industry sector 49
3.5.1 Regulatory governance issues in Nigeria's downstream petroleum sector 52
3.5.2 The petroleum subsidy debate in Nigeria 55
3.6 Conclusion 58
CHAPTER FOUR 59
Public Interest Theory as a theoretical framework 59
4.1 Introduction 59
4.2 The concept of the Public Interest Theory 59
4.3 The assumption of the Public Interest Theory within the context of public perception of regulatory governance 62
4.3.1. The unbalanced market operation 63
4.3.2 The information problem 63
4.3.3 Criticisms of the Public Interest Theory of regulation 64
4.4 The application of Public Interest Theory to Nigeria's downstream petroleum sector 66
4.5 Other theories that could have been applied to the study. 69
4.6 Conclusion 71
CHAPTER FIVE 72
Research methodology and methods 72
5.1 Introduction 72
5.2 Research philosophy 72
5.3 Development of the hypotheses 77
5.4 Research methods 81
5.4.1 The population of the study 83
5.4.2 Sample and sampling techniques 87
5.4.3 Data collection techniques 87
5.4.3.1 Questionnaire design 89
5.4.3.2 Interview 90
5.4.3.3 Pilot study 90
5.4.3.4 Reliability and validity 91
5.4.3.5 Questionnaire administration 92
5.5 The method of data analysis 93
5.6 Conclusion 96
CHAPTER SIX 97
Data analysis and presentation 97
6.1 Introduction 97

6.2 Questionnaire response 97
6.2.1 Data check 98
6.2.2 Missing values 99
6.3 Demographic characteristics of respondents 99
6.4 Main findings of the study 100
6.4.1 Regulatory independence 101
6.4.1.1 Perceptions relating to the Department of Petroleum Resources regulatory independence in regulatory governance practice; 101
6.4.1.1.1 Department of Petroleum Resources has the financial autonomy to determine its own budgets 102
6.4.1.1.2 The Department of Petroleum Resources is free to make independent decisions relating to the regulations of the downstream petroleum sector 104
6.4.1.1.3 The Department of Petroleum Resources effectively reprimands regulated companies that do not adhere to regulations. 106
6.4.1.1.4 The Department of Petroleum Resources regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel. 107
6.4.1.1.5 The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel 108
6.4.1.2 Perceptions relating to the regulatory independence in setting Petroleum Product Pricing 109
6.4.1.2.1 The Petroleum Products Pricing Regulatory Agency has financial autonomy to determine its own budgets 110
6.4.1.2.2 The Petroleum Product Pricing Regulatory Agency is free to make independent decisions relating to the pricing of petroleum products in the downstream sector. 112
6.4.1.2.3 The Petroleum Product Pricing Regulatory Agency effectively sanctions regulated companies that do not adhere to the pricing regulations 113
6.4.1.2.4 The Petroleum Product Pricing Regulatory Agency regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel 114
6.4.1.2.5 The Petroleum Product Pricing Regulatory Agency independently recruits, deploys, promotes and disciplines its own personnel 115
6.4.1.3 Perceptions relating to the Petroleum Equalization Fund regulatory independence in good regulatory governance; 117
6.4.1.3.1 The Petroleum Equalization Fund has the financial autonomy to determine its own budgets. 118
6.4.1.3.2 The Petroleum Equalisation Fund is free to make independent decisions relating to price equalisation in the downstream petroleum sector. 119

6.4.1.3.3 The Petroleum Equalisation Fund effectively reprimands regulated companies that do not adhere to the price equalisation policy 121
6.4.1.3.4 The Petroleum Equalisation Fund's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel. 121
6.4.1.3.5 The Petroleum Equalisation Fund independently recruits, deploys, promotes and disciplines its own personnel. 123
6.4.2 Regulatory accountability 125
6.4.2.1 Perceptions relating to the accountability practice of the Department of Petroleum Resources 126
6.4.2.1.1 Guidelines to obtain import permits are clearly stated and publicised by the Department of Petroleum Resources 127
6.4.2.1.2 The Department of Petroleum Resources follows due process in the issue of import licenses to regulated companies 129
6.4.2.1.3 The Department of Petroleum Resources discloses information to the general public relating to the issue of import licenses 130
6.4.2.1.4 The Department of Petroleum Resources discloses information to the National Assembly relating to the issue of import licenses 131
6.4.2.1.5 The Department of Petroleum Resources discloses the amount of imported petroleum products to the general public 132
6.4.2.1.6 The Department of Petroleum Resources discloses all discovered malpractices relating to the importation of petroleum products 133
6.4.2.1.7 The Department of Petroleum Resources discloses information relating to locally refined petroleum products 134
6.4.2.1.8 The Department of Petroleum Resources discloses all the revenue it generates annually. 134
6.4.2.2 Perceptions relating to the accountability practice of the Petroleum Product Pricing Regulatory Agency; 135
6.4.2.2.1 Guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency 136
6.4.2.2.2 The Petroleum Products Pricing Regulatory Agency follows due process in the pricing of petroleum products. 139
6.4.2.2.3 The Petroleum Products Pricing Regulatory Agency discloses to the general public, all important information relating to the pricing of petroleum products. 140
6.4.2.2.4 The Petroleum Products Pricing Regulatory Agency discloses all important information relating to the pricing of petroleum products to the National Assembly. 141
6.4.2.2.5 The Petroleum Products Pricing Regulatory Agency audits all subsidy claims relating to the importation of petroleum products. 141

6.4.2.2.6 The Petroleum Products Pricing Regulatory Agency follows due process relating to all subsidy payments 142
6.4.2.2.7 The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to the pricing of petroleum products. 143
6.4.2.2.8 The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products. 144
6.4.2.2.9 The Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders 145
6.4.2.3 Perceptions relating to the accountability practice of the Petroleum Equalisation Fund; 146
6.4.2.3.1 Guidelines to equalise the price of petroleum products are clearly stated and publicised by the Petroleum Equalisation Fund 147
6.4.2.3.2 The Petroleum Equalisation Fund follows due process in equalising the price of petroleum products in the country 148
6.4.2.3.3 The Petroleum Equalisation Fund follows due process in determining bridging costs 149
6.4.2.3.4 The Petroleum Equalisation Fund discloses to the general public, important information relating to the price equalisation of petroleum products 150
6.4.2.3.5 The Petroleum Equalisation Fund discloses to the National Assembly information relating to price equalisation of petroleum products. 151
6.4.2.3.6 The Petroleum Equalisation Fund audits all bridging claims relating to the transportation of petroleum products. 152
6.4.2.3.7 The Petroleum Equalisation Fund follows due process relating to the payment of bridging claims 152
6.4.2.3.8 The Petroleum Equalisation Fund discloses all significant discovered malpractices relating to bridging claims 153
6.4.2.3.9 The Petroleum Equalisation Fund discloses all the revenue it generates relating to the registration of transporters 153
6.4.3 Regulatory transparency 155
6.4.3.1 Perceptions relating to the transparency practice of the Department of Petroleum Resources; 156
6.4.3.1.1 The Department of Petroleum Resources consults all legitimate stakeholders in major regulatory decisions 157
6.4.3.1.2 The methods used for the measurement of petroleum products by the Department of Petroleum Resources are transparent 158
6.4.3.1.3 The methods used for the issue of import licenses to regulated companies by the Department of Petroleum Resources are transparent 159

6.4.3.1.4 The methods used by the Department of Petroleum Resources in monitoring the amount of imported petroleum products are transparent.....160
6.4.3.1.5 When the Department of Petroleum Resources refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified 161
6.4.3.2 Perceptions relating to the transparency practice of the Petroleum Product Pricing Regulatory Agency.....162
6.4.3.2.1 The Petroleum Products Pricing Regulatory Agency consults all legitimate stakeholders on major regulatory decisions 163
6.4.3.2.2 The methods used by the Petroleum Products Pricing Regulatory Agency in reviewing the price of petroleum products are transparent 164
6.4.3.2.3 The methods used by the Petroleum Products Pricing Regulatory Agency in determining the actual price of petroleum products are transparent 165
6.4.3.2.4 When the Petroleum Products Pricing Regulatory Agency refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified 166
6.4.3.3 Perceptions relating to the transparency practice of the Petroleum Equalisation Fund 167
6.4.3.3.1 The Petroleum Equalisation Fund consults all legitimate stakeholders on major decisions relating to price equalisation 167
6.4.3.3.2 The methods used in determining the actual cost of bridging the petroleum products by the Petroleum Equalisation Fund are transparent.....169
6.4.3.3.3 When the Petroleum Equalisation Fund refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.....169
6.4.4 Regulatory expertise 171
6.4.4.1 Perceptions relating regulatory governance expertise of the Department of Petroleum Resources.....172
6.4.4.1.1 The Department of Petroleum Resources has the capacity to regulate the downstream petroleum sector 172
6.4.4.1.2 The Department of Petroleum Resources deploys skilled personnel to conduct its downstream regulatory functions 174
6.4.4.1.3 Staff from the Department of Petroleum Resources receive the necessary training to ensure the implementation of quality regulations in the downstream sector 175
6.4.4.1.4 The Department of Petroleum Resources is effective in establishing a framework for good regulatory governance.....175

6.4.4.1.5 The appointment of the executive management of the Department of Petroleum Resources is primary based on merit 176
6.4.4.1.6 The personnel of the Department of Petroleum Resources discharge their regulatory duties in a professional manner 176
6.4.4.2 Perceptions relating to the regulatory governance expertise of the Petroleum Product Pricing Regulatory Agency 177
6.4.4.2.1 The Petroleum Products Pricing Regulatory Agency has the capacity to regulate the pricing of petroleum products 178
6.4.4.2.2 The Petroleum Products Pricing Regulatory Agency deploys skilled personnel to conduct its regulatory functions relating to the pricing of petroleum products 180
6.4.4.2.3 Staff from the Petroleum Products Pricing Regulatory Agency receives the necessary training to ensure the implementation of high quality regulations relating to the pricing of petroleum products 180
6.4.4.2.4 The Petroleum Products Pricing Regulatory Agency is effective in putting in place a framework for good regulatory governance 181
6.4.4.2.5 The appointment of the executive management of the Petroleum Products Pricing Regulatory Agency is primarily based on merit 182
6.4.4.2.6 The personnel of the Petroleum Products Pricing Regulatory Agency discharge their regulatory duties in a professional manner 182
6.4.4.3 Perceptions relating to the regulatory governance expertise of the Petroleum Equalisation Fund 183
6.4.4.3.1 The Petroleum Equalisation Fund has the capacity to regulate bridging activities in accordance with its mandate 184
6.4.4.3.2 The Petroleum Equalisation Fund deploys the necessary personnel to conduct its regulatory functions relating to the downstream petroleum sector 185
6.4.4.3.3 Staff from the Petroleum Equalisation Fund receive the necessary training to enable them to set high quality regulations relating to its mandate 186
6.4.4.3.4 The Petroleum Equalisation Fund is effective in establishing a framework for good regulatory governance in accordance with its mandate 187
6.4.4.3.5 The appointment of executive management of the Petroleum Equalisation Fund is based primarily on merit 187
6.4.4.3.6 The personnel of the Petroleum Equalisation Fund discharge their regulatory duties in a professional manner 188
6.6 Interim conclusion 190
CHAPTER SEVEN 193
Analysis of interview findings 193
7.1 Introduction 193

7.2 The interview procedures 193
7.3 Analyses of the interview findings 195
7.3.1 Concerns relating to the inadequate independence of Nigeria's downstream regulatory agencies 195
7.3.2 Concerns relating to the poor accountability practice among Nigeria's downstream regulators 199
7.3.3 Concern relating to inadequate transparency practice in Nigeria's downstream petroleum sector 203
7.3.4 Concerns relating to the inadequate utilisation of skills in the sector 207
7.3.5 Concerns relating to the reasons behind the material differences between the major respondent groups 210
7.3.6 Concerns relating to Nigeria's downstream regulatory agencies' ability to assist the government in meeting its societal aims and objectives 212
7.3.7 Concerns regarding the mitigation of challenges affecting the performance of Nigeria's downstream regulatory agencies. 216
7.4 Conclusion of the interview chapter 219
CHAPTER EIGHT 221
Summary and conclusion 221
8.1 Introduction 221
8.2 Summary of the research findings 222
8.2.1 Summary of the findings relating to the independence of Nigeria's downstream regulatory governance 224
8.2.2 Summary of the findings relating to the accountability practice in Nigeria's downstream regulatory governance 225
8.2.3 Summary of the findings relating to transparency practice in Nigeria's downstream regulatory governance 225
8.2.4 Summary of the findings relating to the level of expertise in Nigeria's downstream regulatory governance 226
8.3 Contributions of the study 226
8.4 Recommendations 227
1. Recommendations for regulatory agencies 227
2. Recommendations for further research 229
8.5 Limitations of the study 230
References 232
Appendix 2 263
Appendix 3A 264
Appendix 3B 265

Appendix 3C 266
Appendix 4A 268
Appendix 4B 269
Appendix 4C 272
Appendix 5A 274
Appendix 5B 275
Appendix 5C 276
Appendix 6A 277
Appendix 6B 278
Appendix 6C 279

List of figures

Figure 1.1: Structure of the thesis 12
Figure 3.1: A summary of the downstream structure 35
Figure: 2 Public Interest Theory and regulatory governance relationship in Nigeria's downstream petroleum sector 69

List of Tables

Table 3.1: Refining capacity of the four refineries under the control of the NNPC 34
Table 3.2: DPR legislation 42
Table 4.1: Main features of Agency Theory 71
Table 5.1 Summary of the respondents' groups..... 87
Table 6.1: Questionnaires issued and returned based on the respondent group..... 98
Table 6.2: Pattern of cases with missing value..... 100
Table 6.3: Frequency of respondents' demographic characteristics..... 101
Table 6.4: Descriptive frequencies relating to DPR's regulatory independence..... 103
Table 6.5: Mann-Whitney test relating to DPR's regulatory independence 104
Table 6.6: Descriptive frequencies relating to PPPRA's regulatory independence 111
Table 6.7: Mann-Whitney test relating to PPPRA's regulatory independence 112
Table 6.8 Descriptive frequencies relating to PEF's regulatory independance 118
Table 6.9: Mann-Whitney test relating to PEF's regulatory independance 119
Table 6.10: Summary of the number of MW difference between groups (For HO_1) 125
Table 6.11: Descriptive frequencies of to DPR's regulatory accountability..... 127
Table 6.12: Mann-Whitney test relating to DPR's regulatory accountability..... 129
Table 6.13: Descriptive frequencies relating to the PPPRA's regulatory accountabilty..... 137
Table 6.14: Mann-Whitney test relating to the PPPRA's regulatory accountabilty..... 138
Table 6.15: Descriptive frequencies relating to the PEF's regulatory accountability..... 147
Table 6.16: Mann-Whitney test relating to the PEF's regulatory accountability..... 148

Table 6.17: Summary of the number of MW differences between groups (For HO_2).....156
Table 6.18: Descriptive frequencies relating to DPR's regulatory transparency 157
Table 6.19: Mann-Whitney test relating to DPR's regulatory transparency.....158
Table 6.20: Descriptive frequencies relating to PPPRA's regulatory transparency 163
Table 6.21: Mann-Whitney test relating to PPPRA's regulatory transparency 164
Table 6.22: Descriptive frequencies relating to PEF's regulatory transparency.....168
Table 6.23: Mann-Whitney test relating to PEF's regulatory transparency.....169
Table 6.24: Summary of the number of MW differences between groups (For HO_3).....172
Table 6.25: Descriptive frequencies relating to DPR's regulatory expertise.....173
Table 6.26: Mann-Whitney test relating to DPR's regulatory expertise.....174
Table 6.27: Descriptive frequencies relating to PPPRA's regulatory expertise.....179
Table 6.28: Mann-Whitney test relating to PPPRA's regulatory expertise 180
Table 6.29: Descriptive frequencies relating to PEF's regulatory expertise.....184
Table 6.30: Mann-Whitney test relating to PEF's regulatory expertise.....185
Table 6.31: Summary of the number of MW differences between groups (For HO_4).....191
Table 6.32: Overall number of significant differences recorded between groups 192
Table 7.3.1.1: Summary of interview findings relating to the factors affecting regulatory independence.....200
Table 7.3.2.1: Summary of the interview findings relating to factors affecting the regulatory accountability.....204
Table 7.3.3.1: Summary of the findings in relation to the perception of poor transparency practices 208
Table 7.3.4.1: Summary of the findings relating to the inadequate utilisation of the Nigerian downstream regulators' skills and the way forward……...210
Table 7.3.5.1: Summary relating different perceptions held between group in relationg the transparency and accountability practice of downstream regulators.....213
Table 7.3.6.1: Summary on whether the performance of downstream regulators helps government to meet its societal aims and objectives……..216
Table 7.3.7.1: Summary of proposed step aimed at enhancing the performance of the Nigeria's downstream regulatory agencies. 220

Abbreviations

ABS	Aberdeen Business School
AGO	Automotive Gas Oil
ASTM	American Society for Testing Methods
ATK	Aviation Turbine Kerosene
BP	British Petroleum
CAC	Corporate Affairs Commission
CFRN	Constitution of the Federal Republic of Nigeria
CS	Civil Society
DAPPMA	Depot and Petroleum Product Marketers Association
DPR	Department of Petroleum Resources
HHK	Household Kerosene
HPFO	High Pour Fuel Oil
IMF	International Monetary Fund
IOMC	Independent Oil Marketing Company
IP	Institute of Petroleum
IPMAN	Independent Members of the Petroleum Marketers Association of Nigeria
LPFO	Low Pour Fuel Oil
LPG	Liquefied Petroleum Gas
MCAR	Missing Completely at Random
MOMC	Major Oil Marketing Companies
MPR	Ministry of Petroleum Resources
NA	National Assembly
NEITI	Nigerian Extractive Industry Transparency Initiatives
NGOs	Non- Governmental Organisation
NLNG	Nigerian Liquefied Natural Gas
NNOC	Nigeria's National Oil Corporation
NNPC	Nigerian National Petroleum Corporation
NPA	Nigerian Port Authority
NTA	National Transportation Allowance
NUPENG	National Union of Petroleum and Natural Gas Workers
OECD	Organisation for Economic Co-Operation and Development
OPEC	Organisation of Petroleum Exporting Countries
PEF	Petroleum Equalisation Fund
PENGASSAN	Petroleum and Natural Gas Senior Staff Association of Nigeria
PIB	Petroleum Industry Bill
PMS	Premium motor spirit
PPMC	Pipelines Products Marketing Company
PPPRA	Petroleum Product Pricing Regulatory Agency
PPPRC	Petroleum Products Pricing Regulatory Committee
PSF	Petroleum Support Fund
SCRPPSD	Special Committee on the Review of Petroleum Products Supply and Distribution
SNG	Save Nigeria Group
SON	Standards Organization of Nigeria
TAM	Turn-Around Maintenance
TDZ	Transportation Differential Zone
TU	Trade Union
UK	United Kingdom
UNDP	United Nation Development Programme
USA	United State of America

Abstract

This thesis contributes to the research literature by reporting the results of an investigation that explores whether regulatory governance practices in Nigeria's downstream petroleum sector are fit for purpose. The rationale for the study originated from issues relating to the management of Nigeria's downstream petroleum sector that were identified in the extant literature. These issues were of such significance that their resolution could impact positively and materially on Nigeria's economy and at the same time the research would fill a gap in the relevant literature. The data for this empirical research were collected using questionnaire and interview instruments and the findings were analysed against a backdrop of the Public Interest Theory of Regulation. The results obtained revealed perceptions of major weaknesses in the regulatory governance practices adopted by Nigeria's downstream regulatory agencies namely: the regulatory independence of Nigeria's downstream regulators has declined over time; there are flaws in the accountability practices of Nigeria's downstream regulators; and there are other related factors such as the absence of openness, poor consultation and a lack of public sensitisation that affect the transparency practices of Nigeria's downstream regulators. Interestingly, the results also revealed that although Nigeria's downstream regulators appear to possess the required skills to regulate the sector, their talents are not being fully utilised. Recommendations to resolve the weaknesses identified are made which, if properly and effectively implemented, should have a significant positive impact on the Nigerian economy. Such recommendations may also be applicable to those countries with similar regulatory governance challenges.

Keywords: Nigeria's Downstream Petroleum Sector, Public Interest Theory, Regulatory Governance, Regulatory Agencies

CHAPTER ONE

Introduction

1.1 Preamble

Over the years Nigeria's downstream petroleum sector has increasingly become unstable (Okpage et al., 2012). For example, Ameh (2005) pointed out that even with the existence of regulatory agencies, Nigeria's downstream petroleum sector has experienced a number of problems including scarcity, adulteration, bunkering of products and corruption. Okpage et al., (2012) further stated that the sector's regulatory agencies appear to have a number of weaknesses. This view was substantiated by the results of the government investigation after the 2012 oil subsidy crisis (Petroleum Task Force, 2102).

The unexpected increase in the petroleum pump price in January 2012 resulted in a nationwide protest that paralysed the economy (Sunusi, 2012) and resulted in the establishment of investigation panels by both the executive and legislative arms of the government. The findings of the panels point to a number of regulatory issues and challenges in the sector including bribery, forgery and complicity. Specifically, the National Assembly reported cases of malpractice, mismanagement and fraud among regulated companies.

In the same vein the Petroleum Product Pricing Regulatory Agency, a regulatory agency in the sector, reported a lack of adequate funding to enable them discharge their regulatory duties and responsibility effectively (PPPRA, 2012). Furthermore, companies lacking the necessary qualifications and prerequisites are now participants in the downstream business. Indeed, many companies who had neither depots nor throughput agreements were allowed to participate in the scheme despite revised eligibility guidelines (Sanusi, 2012).

Another issue in the sector was the state of infrastructure,[1] particularly the decaying refineries and pipelines. In this regards, Anthony et al. (2012, p. 61) observed that:

[1] The poor state of the refineries appears to be a deliberate attempt by the regulated companies to continue the practice of importing petroleum products in order to received outrageous amounts of money in the name of fuel subsidies (Nuhu-Koko, 2008).

> *the low capacity utilization of Nigeria's state-owned refineries and petrochemical plants in Kaduna, Warri and Port Harcourt, the sorry state of repair, neglect and repeated vandalisation of the state-run petroleum product pipelines and oil movement infrastructure nationwide, the collateral damage of institutionalised corruption, with the frightening emergence of local nouveau riche, oil mafia that controls, and coordinates crude oil, and refined petroleum product, pipeline sabotage and theft (illegal bunkering) nationwide, the insatiably corrupt task force operatives that assist diversions of both crude oil and petroleum products, large–scale cross–border smuggling of petroleum products, of all of which are the root causes of the protracted and seemingly intractable fuel crises that have bedevilled the polity relentlessly for close to a decade now, are all predictable outcomes of government involvement in the downstream sectors of the Nigeria's petroleum industry.*

With regards to government's subsidy on petroleum products, Nuhu-Koko (2008) noted that the public still pay very high prices, suggesting that they are paying for inefficiencies and corruption.[2] The government's regulations appear to favour regulated companies rather than the general public (Sanusi, 2012; Akpieyi, 2009; Khan, 1994). This is consistent with the earlier view that the sector's regulators seem to play more script of the industry.

Sunusi (2012) argued that the system consists of very incompetent operational management throughout the supply chain, ranging from poor product handling to distribution to final consumers. Ehinomen and Adeleke (2012) noted that theft of petroleum products from pipelines and cross-border smuggling, as well as inefficiencies in handling activities in the jetties and storage depots, all result in considerable leakages in the supply chain. Indeed, all these problems, implicitly and explicitly, generate costs, which are offloaded by regulated companies and then indirectly passed onto final consumers. These costs are undeniably significant and invariably have a detrimental effect on the system, with the public at the receiving end.

The above state of affairs of Nigeria's downstream sector oil and gas industry is not normal, and might not be unconnected to number of problems in the system, including lack of good regulatory governance practice. For example, it might be

[2] The findings of the Petroleum Task Force and industry experts indicated that the landing costs for the imported petroleum products in Nigeria are the highest within the West African sub-region (Petroleum Task Force; 2012).

reasonable to say that because of a lack of good regulatory governance practice a regulator might identify with the interest of the industry, rather than striking a balance between those of industry and public. Further, it might be because of a lack of an effective regulator (and related governance) that the sector has issues, for instance, relating to pricing, product shortages, and licensing.

This study investigates whether a lack of good governance in the regulation of the sector contributes to the issues of Nigeria's downstream petroleum sector.

1.2 Objectives and research questions of the study

This section discusses the aim and objectives of the study the development of which have been influenced by the wider literature on regulatory governance practice. The major factors leading to the implementation of successful regulatory governance systems are the concepts of accountability, transparency, responsibility and fairness (Yakasai, 2001). The International Monitory Fund (IMF) in 2004 and the World Bank in 2005 issued frameworks for good regulatory governance principles. The IMF framework focused on four characteristics: independence, accountability, transparency and expertise. Good regulatory governance practice enables and inspires stakeholders to formulate and implement policies that are conducive to all the parties involved in order to attain the policy objectives without hindrance (Gregory, 2000). Practicing good regulatory governance is the primary aspect of economic development in any society (Gregory, 2000). Such practices also help to generate and preserve an environment that encourages capital investment (Oman, 2001).

A good regulatory governance system can be well-defined by the ability of a regulatory agency to effectively and efficiently manage resources, and to design and implement regulatory policies in order to meet regulatory objectives (Kaufman, 2000). There are four dimensions of good regulatory governance practice which have been widely considered as the major principles for achieving regulatory best practice (Quintyn, 2002). These dimensions are interrelated and underpin each other at various levels to ensure good regulatory best practice (Dinar, 2000). Regulatory independence, regulatory accountability and regulatory transparency are two sides of the same coin. Regulatory expertise supports the three mechanisms (Parker, 2002).

Regulatory accountability and regulatory transparency are mechanisms for preserving regulatory independence (World Bank, 2003). This could be achieved by making regulatory actions and regulatory decisions accountable and transparent but this is dependent on the level of regulatory expertise (OECD, 2002). These four dimensions are as follows:

(a) Regulatory Independence

Regulatory independence refers to the level of regulators' autonomy in relation to their regulatory decisions and finance (McCabe and Nowak 2008). For any regulatory agency to discharge its duties effectively and efficiently it has to have a legal mandate that make it autonomous from outside interference (IMF, 2004). Further, the possibility of attaining regulatory objectives by regulators relies on the adequacy of independence mechanisms that are in place. Quintyn et al., (2002) argued that it is vital for the regulatory agency to be protected from inappropriate influence from the political domain and from the regulated firms in order to achieve the stated regulatory objectives. They also stated that regulatory agencies' independence raises the opportunity for ensuring credible regulatory policy.

A good regulatory governance regime should be reinforced by legislative laws stating clearly the autonomy requirements (Parker, 2002). The general public through their representatives in parliament might initiate certain objectives for regulators to adhere to (Robert et al., 2012). Since regulatory independence is a necessary mechanism for good regulatory governance practice, this requires instruments, mechanisms and procedures to be put in place to preserve the autonomy of the agency from political and regulated entity interference (Pelkmans et al., 2000).

(b) Regulatory Accountability

Regulatory independence cannot be realised without effective regulatory accountability practice (Dinar, 2000). Regulatory accountability provides a transparent mechanism by which the regulatory agency has to explain and account for its actions (IMF, 2004). Thus, regulatory accountability encompasses the instruction to embark on certain actions or to desist from such actions and provides an account of such activities (OECD, 2000). Quintyn et al., (2002) further stated that

regulatory accountability is not only about being accountable, but it is also a requirement for validating such reported activities and ensuring the readiness of regulators to face any possible consequences for their actions.

To ensure good regulatory governance practice, regulatory agencies must justify any actions they are planning to undertake, how they will go about implementing such decisions and the outcome of those decisions (OECD, 2002). For the effectiveness of regulatory governance practice the regulators should disclose all pertinent information regarding regulatory rules to the general public, regulated entities, government and to the legislature (IMF, 2004). An effective regulatory accountability practice is crucial for ensuring efficient regulatory decision-making (Parker, 2002). Thus, effective regulatory best practice entails proper accountability practice.

(c) Regulatory transparency

Regulatory transparency is regarded as the environment within which regulatory agency's goals and objectives are carried out in a transparent manner (McCabe and Nowak, 2008). Dinar, (2000) stated that regulators should consult all stakeholders on any regulatory decisions and explain the rationale for embarking on such decision. It is vital that information about regulatory policy is easily accessible by regulated firms and the general public and that this information is made available in a comprehensive and timely manner (IMF 2000). Parker, (2000) pointed out that regulatory transparency has been recognised as a good mechanism for ensuring regulatory best practice. He further adds that for regulators to achieve their stated objectives a greater degree of transparency practice throughout the regulatory process is required. In addition, implementation of regulatory transparency practice has become an influential mechanism for preventing poor regulatory governance practices (World Bank, 2005).

(d) Regulatory Expertise

Good regulatory governance practice requires the regulatory agency's staff to possesses the necessary skills and knowledge about the industry they are regulating (OECD, 2002). Regulators should be highly trained in order for them to pursue the

regulatory agency's goals without compromising them due to their lack of knowledge or self-interest (Dinar, 2000). Ensuring that regulators have the necessary expertise has become a major concern with respect to the need for regulators achieving their regulatory objectives. For example, Quintyn et al., (2002) pointed out that the appointment of regulatory agency's heads should be based on expertise and proven integrity. The tenure and criteria for removal should be clearly stated (IMF, 2004). Good regulatory governance practice cannot be achieved without adequate skills/ expertise (McCabe and Nowak, 2008). Thus, regulatory expertise will undoubtedly ensure and improve the quality of regulation and strengthen the credibility of the regulatory institution (Dinar, 2000). Parker, (2002) argued that an appropriate level of regulatory agencies' expertise is a prerequisite to ensure that regulatory independence, regulatory accountability and regulatory transparency are achieved in a satisfactory manner.

The four dimension discussed above are the pillars for ensuring good regulatory governance practice. These four dimensions have been widely being discussed in the regulatory governance literature (Dinar, 2000, Parker, 2002, OECD, 2002, Quintyn et al., 2002, World Bank, 2003, IMF, 2004 and McCabe & Nowak 2008). Similarly, this study reviewed the four dimensions of good regulatory governance practice. The aims and objectives of this study were formulated in line with the four dimensions of good regulatory governance practice. Therefore, based on the literature reviewed and the anecdotal evidence concerning the operations of Nigeria's downstream petroleum sector the following aim and objectives were developed:

Aim-This study aims to critically investigate the impact of regulatory governance practice on Nigeria's downstream petroleum sector.

Objectives-

1. To critically assess the state of regulatory independence of Nigeria's downstream petroleum sector in relation to good regulatory governance practice.
2. To critically examine the level of regulatory accountability of Nigeria's downstream petroleum sector in relation to good regulatory governance practice.

3. To critically measure the state of regulatory transparency of Nigeria's downstream petroleum sector in relation to good regulatory governance practice.
4. To critically evaluate the level of regulatory expertise of Nigeria's downstream petroleum sector in relation to good regulatory governance practice.

These objectives were set as a means of addressing the following research question:

To what extent is the regulatory governance practice in Nigeria's downstream petroleum sector fit for purpose?

1.3 Research hypotheses

In line with the literature reviewed in Chapter 2, and the above stated objectives, the following research hypotheses were developed for testing in this study:

Main research hypothesis

HO_1 – The regulatory governance practice in Nigeria's downstream petroleum sector is not fit for purpose.

Sub-hypotheses

HO_1 *– There are inadequate independence arrangements in place to enable Nigeria's downstream regulatory agencies to ensure good regulatory governance practice in the sector.*

HO_2 – *Inadequate accountability mechanisms are in place and these affect the regulatory governance practice of Nigeria's downstream regulatory agencies.*

HO_3 *– Inadequate transparency mechanisms are in place and these affect the regulatory governance practice of Nigeria's downstream regulatory agencies.*

HO_4 *– Lack of required expertise affects the regulatory governance practice of Nigeria's downstream regulatory agencies.*

The originality and expected contribution of the study are discussed below.

1.3.1 Originality, significance and expected contributions of the study

It has been argued that both oil-producing and non-oil-producing countries must maintain efficient downstream petroleum sectors to ensure their economic growth and development (Ameh, 2005). Therefore, in light of the relevance of Nigeria's downstream petroleum sector to its economy, this research is of importance to the socio-political and economic development of Nigeria.

Firstly, the study will be of significant economic consequence for Nigeria and other countries that face similar challenges to Nigeria's downstream sector, taking into consideration the significance of the petroleum resources. For example, Nigeria's economy is heavily reliant on the income derived from the sale of oil and gas. As Sunusi (2010) emphasised, 95% of foreign exchange earnings, 83% of Government revenue and over 80% of Nigeria's GDP are derived from the sales of petroleum resources. Hence, this research, which seeks to explore the regulatory governance mechanism in Nigeria's downstream petroleum sector, has the potential to add significant value to the Nigeria's oil and gas sector.

Secondly, as no previous research has been carried out in relation to the regulatory governance of Nigeria's downstream petroleum sector, this research can be regarded as a pioneering study into the regulatory agencies involved. The study will contribute to the existing literature on regulatory governance and will enable other researchers to use it as a reference for further investigation. Its findings may also be of benefit not only to the Nigeria's government but also to other countries that face similar challenges.

Thirdly, Glaeser and Shleifer (2003) believe that poor regulatory governance practices result in the perceived failings of Nigeria's downstream petroleum sector. As such, the findings of this study might inspire the government and other regulatory agencies to start thinking positively about the future of regulation in the country, not only for the sector under current study, but for all other sectors as well.

Fourthly, the recommendations made by this thesis may offer valuable solutions of significant importance to the downstream sector. Hence, this research, which seeks to explore the regulatory governance mechanism of Nigeria's downstream petroleum

sector, could considerably enhance the efficiency of operations within the downstream petroleum sector.

The next section introduces the theoretical framework for this study.

1.3.2 Theoretical framework and research methodology

This study adopts the Public Interest Theory (PIT) of regulation. The theory is based on the premise that government regulations are intended to correct market inefficiencies and the inequality in the distribution of scarce resources for the welfare of all (Levy and Spiller, 1996). Levy and Spiller (1994) further stated that governmental regulations are supposed to benefit the public. Indeed, the regulators are regarded as representing the general public rather than private interests.

In Levy and Spiller (1996), the Public Interest Theory of regulations is considered the best mechanism of resource allocation. In advanced economies, demand and supply forces determine the distribution of scarce resources (Levy and Spiller, 1996). Levy and Spiller (1994) argue that the best method of allocating resources under normal conditions is by means of a market mechanism. These circumstances, however, are not adhered to in practice because of the difficulty in allocating scarce resources. This difficulty, therefore, calls for other mechanisms that can enhance resource allocation (Adams and Tower, 1994). Levy and Spiller (1996) and Arrow (1970) argue that only mechanisms governed by governmental regulations can ensure the successful allocation of scarce resources (see Chapter 4). In the light of the above, Nigeria's downstream regulations were designed for the benefit of the general public, hence, the adoption of PIT, which is the most widely used in regulatory governance studies. Despite adopting PIT for this study, this thesis also acknowledges that the regulatory capture theory and the agency theory could also be applicable in the study of regulatory governance of downstream petroleum sector (see Chapter 4).

The literature review in Chapter 5 indicates that the adoption of an appropriate research philosophy, methodology, methods and techniques is necessary in any social science research (Jonker and Pennink, 2010). With regard to the above, this research reviewed various philosophical assumptions and research paradigms associated with social science research. There are a number of frameworks

developed by scholars in relation to what comprises philosophical paradigms, within the perspective of social and organisational theory (see Chapter 5). Several authors argue that a researcher should adopt a paradigm for his/her research because it influences how knowledge is studied and interpreted (Creswell, 2013, Bogdan and Biklen, 1998, Cohen and Manion, 1994).

In this research, the pragmatic paradigm is adopted because it is the underlying philosophical framework for mixed-methods research (Somekh and Lewin, 2005; Tashakkori and Teddlie, 2003; Creswell and Clark, 2007 – see Chapter 5). Jonker and Pennik (2010) argue that the use of a single research approach has many weaknesses. Indeed, a combination of qualitative and quantitative methods of data collection helps to validate the data (Collis and Hussey, 2003; Sekaran, 2006). In the context of this thesis, a questionnaire and interviews were used as data gathering methods. Thus, 150 questionnaires were administered to all stakeholders, of which 68% were completed and returned. In addition, 20 experts were also interviewed.

1.3.3 Structure of the thesis

This study is divided into eight chapters (see Figure 1.1). The current chapter presents the research problems, aim and objectives, research hypotheses and the significance of the study. In addition, the theoretical framework, method and methodology employed in the study are stated.

Chapter Two reviews literature relevant to the study, which includes regulatory governance, and explores the general regulatory governance framework. This chapter contributes immensely to the content of the questionnaire.

Chapter Three provides an overview of Nigeria's downstream petroleum sector, together with its structure. In addition, the chapter highlights the primary regulations of Nigeria's downstream petroleum sector, as contained in the Petroleum Act 1969 (amended in 1990 and 1998). Furthermore, it thoroughly discusses the emergence of three Nigerian downstream regulatory agencies and their regulatory responsibilities. It goes on to give an overview of regulatory governance in the petroleum sector around the world. The issue of petroleum subsidies is also reviewed as well as the regulatory governance issues confronting Nigeria's downstream petroleum sector in

particular. The analysis undertaken in this chapter also helps to guide the format of the questionnaire used in this research.

In Chapter 4, the theoretical framework adopted for this study is thoroughly discussed. Comprehensive reviews of the Public Interest Theory of regulations, its variables and the debates surrounding the theory are presented. The chapter also explores the justifications for applying PIT as a theoretical framework for this study. Other regulatory governance theories are discussed, along with the reasons why they were not chosen as the theoretical framework for this study.

The research methodology and methods for this study are highlighted in Chapter 5. The chapter begins with a general discussion of the philosophical assumptions and the ontological and epistemological debate. It also reviews the research paradigms and justifies the reason for adopting a pragmatic paradigm. The research hypotheses are also developed here, as is the justification for using the mixed-method research technique and research instruments (questionnaire and interview) chosen for the study. This is followed by a description of the data analysis methods and the statistical package employed in this study.

Chapter six reviews the findings of the data collected from the questionnaires. The opinions of the respondents on each of the variables are analysed and interpreted using the descriptive statistics method. Mann-Whitney tests and cross tabulations are run to determine whether differences exist between the respondent groups.

In Chapter 7, the follow up interviews are presented and analysed.

In Chapter 8, which concludes and summarises the thesis, the limitations encountered during the study and recommendations for further research in relation to regulatory governance practice of Nigeria's downstream petroleum sector are outlined.

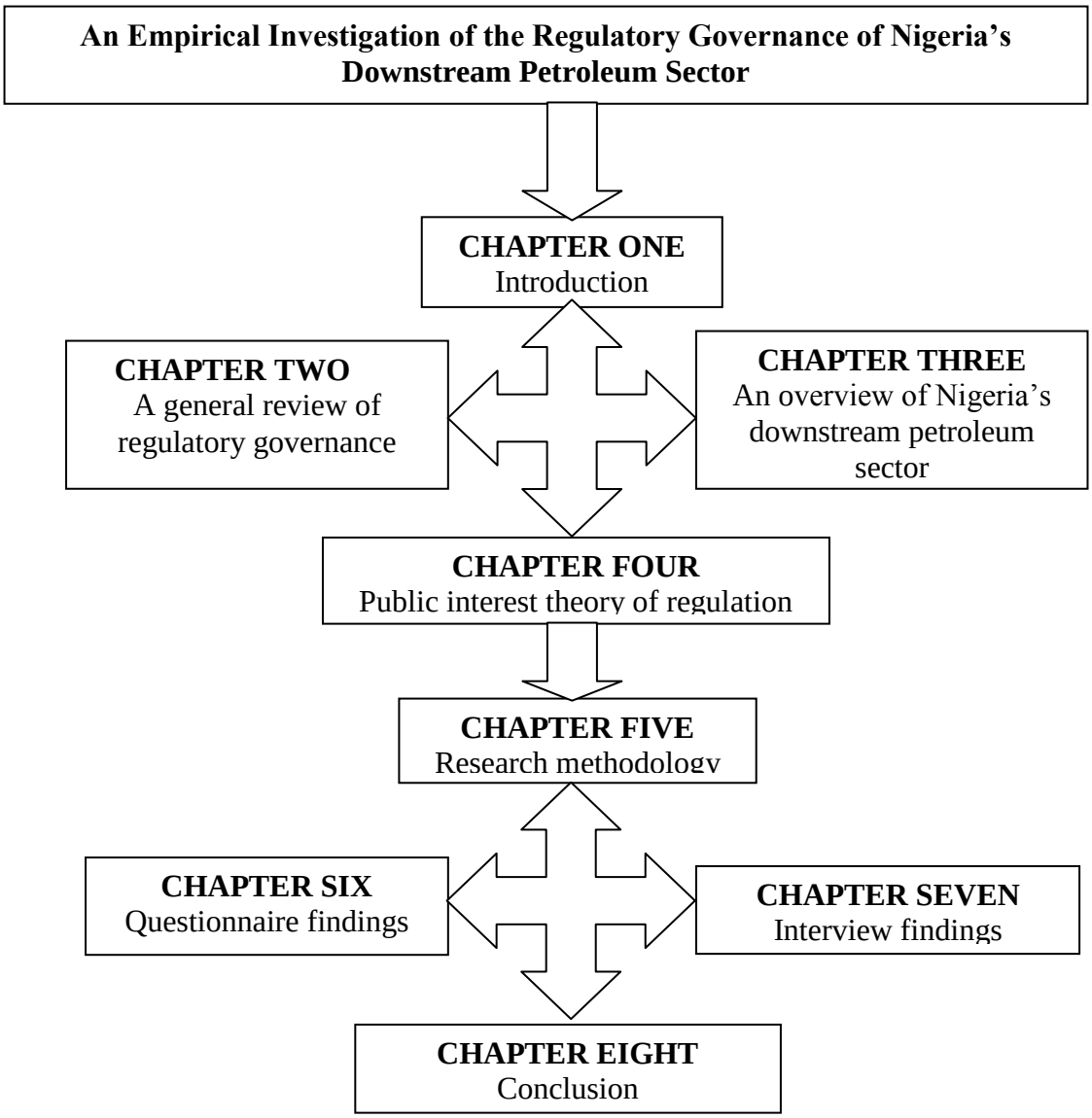


Figure 1.1: Structure of the thesis

CHAPTER TWO

An overview of regulatory governance

2.1 Introduction

The aim of this chapter is to review literature on regulatory governance, which will provide the theoretical basis for this study. It is divided into six sections. Section 2.2 reviews the need for economic regulation, Section 2.3 the concept of regulatory governance. The framework of good regulatory governance is the subject of Section 2.4 and the chapter is concluded in Section 2.5.

2.2 The need for economic regulation

According to the Organisation for Economic Co-Operation and Development (OECD) there are many reasons for government regulations, both social and economic (OECD, 1996). Guasch and Hahn (1999) argue that economic regulations are concerned with the regulation of market entry by firms, service delivery, prices, profits, revenue and output. Regulations are a set of rules (laws or principles) intended to control, govern or conduct behaviour (Breyer, 1982). Alternatively, they could be said to define the formulation and implementation of an authority to manage the conduct of entities, people, companies, organisations or institutions (Stern and Cubbin, 2005). They become necessary when a range of behaviours yield a variety of consequences, of which only some are desirable (Breyer, 1982); the regulating entity determines which consequences are desirable or acceptable (Stern, 2005), and then proscribes conduct that leads to undesirable outcomes, or encourages conduct that results in the desired consequences (Stern, and Holder, 1999).

Ever since the first privatisation, the need to separate regulation from policy-making has been obvious (Barth et al., 2003). Since what was publicly owned was now transferred to private sector, whose interest is to maximise profits, the need for regulation cannot be over-emphasised. Thus, the purpose of government regulations is to protect public interests (Shleifer, 2005). Various regulations are put in place to defend particular interests or sets of special interests; i.e. conduct, which yields benefits, is endorsed by the regulating body (Shleifer, 2005).

Regulations that are deemed to be in the best interest of the common good, indirectly and over time, protect a special interest in the short term (Mitnick, 1980). Mitnick, (1980) argues that protection during regulation extends to intangible values such as an individual's civil rights, potential yields of natural resources and changed future values for both material property and rights of access and conduct. For instance, in the US the rights of an individual to profit from legal activities and the rights of future generations to benefit from natural resources are both protected through the regulated use of publicly owned lands (Mitnick, 1980).

Over the past decade, economic regulation has become a major concern, as ineffective regulation has been associated with weaknesses in the productivity rates of many industrialised countries (Glaeser and Shleifer, 2003). For instance, Shleifer (2005) notes that government regulates the business environment because corporations are chartered by states, as such corporate commerce should be regulated. The state charter creates a corporation and the government regulates the activities of the corporation.

On the other hand, the proponents of market failure argue that there are some serious exceptions. Johnston and Schumacher (2000) assert that free markets often fail to attain maximum market efficiency, which results in resources being wasted. A clear example of this is the utility services industry. Horvat and Branko (1982) hold the view that if there is free market competition between utilities there would be duplication as all the various companies would erect telephone and electric poles and lay waterlines, etc, which would be unnecessary and result in market failure. Thus Jacob et al., (2010) argue that it is vital for the government to regulate competition in order to avoid market failure.

Johnston and Schumacher (2000) identified market failure as the result of a market misjudging what is important. Often markets do not respond to real needs, for instance safety, medical care, libraries, and fairness in commerce, employment and health provisions. Market failures can only be remedied through government regulation. Such measures include minimum wage laws, health codes, safety standards, architectural standards and regulations that will benefit society at large (Johnston and Schumacher, 2000).

Another justification for the introduction of government regulations is the need to protect businesses (Bockman, 2011). Bockman (2011) argues that government guidelines are established to protect many rights that are not protected by free market mechanisms. Many scholars also argue that government protection of businesses is necessary to prevent conflict between various interest groups. For example, Kahn (1988) is of the opinion that employees deserve fair wages, health and safety protection and social security as a matter of right. Consumers, on the other hand, should be protected from the possibility of inherent health problems arising from the goods and services they purchase or consume (Kahn, 1988). Shleifer (2005) also notes that it is the right of all those who have a stake in the market to receive such protection or treatment from foreseen possible consequences. Kamar (1998) argues that government regulations are of paramount importance to overcome judicial inefficiency. For example, chemical waste, such as pollution, may cause harm to victims. In this scenario, it may not be possible to bring the culprit to justice, as it may be difficult to identify the root cause of the pollution. Thus, regulation is said to be appropriate when an activity creating public pollution is deemed sufficiently important (Bockman, 2011).

In direct contrast, the proponents of deregulation, such as Robert and Scapens (1985), argue that corporations should not have to be created by governments. Bockman (2011) observes that in a community that regards the individual as a sovereign being, corporate commerce can and does arise through individual initiative. Then corporate entities are merely an extension of the idea of freedom of association and exist for making people economically prosperous (Levine and Forrence, 1990).

With respect to market failure or inefficiency, Dunleavy (1994) argue that establishing monopolies in public utilities actually secures efficiency in the end. For example, a strike is more crippling in the case of a public utility than in the case of a firm that does not enjoy a legal monopoly. In preventing inefficiency, strikes must also be prohibited (Dunleavy and Hood, 1994). However, that in turn infringes the right of workers to withhold their services. Indeed, market failure is remedied at the expense of a serious loss of freedom (Levine and Forrence, 1990). It could be argued that it would be morally better to accept the inefficiencies, given that in any political

system it is unreasonable to expect perfect efficiency (Levine and Forrence, 1990; Noll, 1989; Frey, 1983; Robert 1999).

According to Zhang (2009), another problem concerning market failure arises when producing important but not commercially viable goods and services; and government remedies contribute to their own share of hazards. Political failures are even more dangerous than market failures (Bailey and Pack, 1995). Kaufmann et al. (2004) believe that weak laws are widespread and it is difficult to remedy undesirable consequences. Similarly, it is easy to establish bureaucracies, but it is difficult or even impossible to do away with them, as the regulators cannot be sued; thus, their errors are not open to legal correction (Dunleavy, 1994). Government regulation involves the coercion of some people for reasons that do not justify such coercion. Moreover, this practice is highly inefficient (Frey, 1983). The regulation of markets may not result in welfare improvements like the economic outcome under imperfect market conditions. Indeed, literature has identified various circumstances where the regulation of markets might reduce rather than increase economic welfare. Regulation of a firm's rate of return could lead to incentives to over-invest (Levine and Forrence, 1990, Noll, 1989, Frey, 1983, Robert, 1979, Bailey and Pack, 1995). Despite these criticisms, government intervention in business is necessary in order to effectively distribute scarce resources (Zhang, 2009).

2.3 The concept of regulatory governance

Nations the world over have established regulatory institutions responsible for economic and social activities (Barth et al., 2006). The primary objective of these regulatory agencies is to ensure that regulatory policies serve the interests of the public (Ahunwan, 2002). These regulatory agencies also need to ensure that regulations and regulatory mechanisms are effectively designed, managed and implemented, and ensure that the bodies they regulate provide a quality service. Zhang (2010) posited that a credible regulatory agency is an integral part of a good regulatory governance system, which assists in shaping the relationship between citizens, businesses and the state. Thus an effective regulatory governance system supports socioeconomic development and the rule of law and helps regulators to make informed decisions about what, whom and how to regulate (Zhang el al. 2005).

According to the OECD (2002), regulatory governance covers both the design and implementation of instruments and the methods for measuring the impact of regulation, as well as principles of good governance. These principles include accountability, transparency, efficiency, adaptability and consistency. Of these principles, however, it is argued that effective accountability and transparency practice are prerequisites for regulatory governance. Ahunwan (2002) posited that good regulatory governance is fundamental to the efficient management of natural resources. Moreover, Ogunleye (2008) stressed that good regulatory governance focuses on the exploitation of a country's natural resources to attain social and economic developments. According to Cariño (2004), good regulatory governance practice prevents corruption and rent-seeking behaviour (the manipulation of political, social and economic activities for the purpose of creating new wealth). The literature suggests that rules and regulations are established to ensure transparency, accountability and credibility, and to maintain effective governance systems that promote good organisational performance (Oman, 2001).

Consequently, the adoption and implementation of an effective and efficient regulatory governance system can contribute to the mitigation of economic social challenges (Zhang, 2010). This involves establishing strong, viable regulatory agencies and institutional leadership and oversight, as well as enhancing accountability and transparency (Cariño, 2004). Indeed, effective regulation emphasises the consultation, communication and engagement of citizens across all levels of government, and internationally, and strengthens the capacity for regulatory management within the public service (OECD, 2010).

According to Goodhart and Charles (2001), the promotion and practice of good regulatory governance is the shared responsibility of regulatory agencies and market participants. Robust regulations enhance the system-wide capacity to act collectively in a manner that deters unsound market practices and the occurrence of moral hazards, and enhances the effectiveness of the system-wide management of stress (Goodhart and Charles, 2001).

Quintyn et al. (2003) identified the most significant responsibilities of these regulatory agencies as follows:

(a) the drafting and amending of new regulations in line with the regulatory mandate;
(b) ensuring compliance and enforcement of rules in line with inspection bodies, audit offices and judiciary; and
(c) monitoring and reporting on the operation of regulatory processes, institutions and systems.

Good regulatory governance helps to promote sound practices among market participants (Rossi and Marco, 1999). Regulators do not operate in a vacuum, but are influenced by both economic and political institutions and the quality of their governance (Glaeser and Shleifer, 2003). The quality of public sector governance and governance practices in the public sector has an impact on the regulatory governance sector (Quintyn et al., 2007).

Regulatory agencies (and their governance) have a significant impact on the economic development and stability within industrial sectors (Schinasi and Garry, 2003). In order to promote stability, regulatory agencies emphasise governance-related issues, such as: transparency and the disclosure of information on risks; strengthening market discipline via the provision of better information and clarity on policy positions; the analysis of qualitative dimensions, such as information-sharing arrangements; and supervisory cooperation (Sundrarajan et al., 2003).

Thus regulatory agencies play a significant role in overseeing, promoting and implementing sound practices in their areas of jurisdiction (Rodrik, 2002). To achieve these objectives, regulatory agencies need to establish and implement sound governance practices (Barth et al., 2000). By practicing good governance, the credibility of regulatory agencies would be enhanced. However, in the event of the failure of effective governance principles, regulatory agencies may lose their credibility and moral authority to promote good practices in the institutions they oversee (La Porta, 2000). This scenario could create moral hazard problems (e.g. unethical behaviour and corruption) and contribute to unsound market practices, which in turn, cannot be addressed without good public sector governance (Schwartz, 1981). One of the main preconditions for good regulatory governance is good public sector governance, for which the key components include:

- the absence of corruption;
- the implementation of a robust approach to competition policies;
- an effective legal and judicial system; and
- having an 'arm's length' approach to government ownership (Kaufmann, 2002).

However, it is recognised that as long as there is nothing to stop politicians interfering in the regulatory process, regulatory governance cannot be effective (Kaufmann and Kraay, 2003). The regulatory institutions in OECD countries have played a key role in promoting a 'whole-of-government' approach relating to reviewing and reforming the existing regulations (IMF, 2004).

The key features of successful regulatory governance systems include the adoption of a broad alignment of the incentives for institutions, policymakers, regulators, business and other stakeholders (La Porta, 2000). These incentives require transparency, predictability, role clarity and clear rules and regulations. As a result, each party of a regulatory transaction has an understanding of the other parties' objectives, good communication and effective sanctions against improper or prohibited conduct (Large and Andrew, 2003). However, if the incentives are not aligned, negative outcomes typically arise, such as corruption, the development and implementation of regulations for the benefit of a few at the expense of the broader community (Johnston et al., 2001).

In developing countries, a regulatory governance system is frequently used (by narrow interests) as a vehicle to strengthen rent seeking and to achieve unnecessary and very damaging control over key parts of the economy (Borio, 2006). Therefore, one key question for the promotion of reforms in developing countries is how the institutionalisation of regulatory governance arrangements helps to safeguard rent seeking and minimise corruption (Johnston et al., 2001).

The adoption of a robust regulatory governance system has become a major issue around the world, probably because good governance plays a significant role in the growth of every organisation, either public or private. In this regard, Okeahalam and Akinboade (2003) observed that the manner in which institutions exercise their powers in running their activities is influenced by the availability of good regulatory

governance practices. The requirement for a regulatory governance system applies to public and private institutions and involves the development of rules, laws and recognised business exercises, which jointly direct the bond, in a market economy, between all interest groups (Johnston et al., 2001). Rules and regulations can be used to reconcile the conflicting interests of all the stakeholders concerned, be it investors, corporate entities, suppliers, management, customers, shareholders, or society as a whole (Yakasai, 2001).

According to Reed (2002), the proper implementation of robust regulations may prevent some stakeholders from taking advantage of the sector and reduce potential unethical practices (e.g. corruption). Indeed, having a good regulatory governance mechanism prevents corruption and manipulation (Rafael et al., 2000).

Good regulatory governance is difficult to define (Dias and Nwete, 2004). For example, Kaufman et al. (2009), view it as:

- the ability and capability to manage resources effectively and efficiently; and
- the formulation, implementation and enforcement of sound policies and regulations in order to achieve designated objectives.

Good regulatory governance encompasses the respect of the regulatory agency for the broader goals and policies of the legislature (Kirkpatrick, and Parker, 2004). In support of this theme, Gregory (2000) identified the use of critical supervisory tools (such as sanctioning and enforcement, including the revoking of licenses) to ensure the stability of the system; this can have a far-reaching impact on stakeholders' property rights. therefore Safeguarding the integrity of the supervisory function is a key objective that should be based on high quality governance practices (Ladegaard, 2005).

Stern and Holder (1999), however, argued that preserving the integrity of the regulatory responsibilities to ensure its effectiveness could be problematic. Regulatory functions are typically 'invisible' and this invisibility makes it open to interference from both politicians and supervisory entities (World Bank, 2003). Examples of government interference that take place in many countries include the granting of forbearance, by allowing institutions to continually breach regulations

without punishment, and the lack of enforcing sanctions (Levy and Spiller, 1994). Government interference may artificially extend the life of insolvent institutions and therefore lead to unfair competition and higher costs for the taxpayer at a later stage (IMF, 2004). In more extreme cases, government interference may also threaten the stability of the sector and lead to systemic problems (OECD, 1999). These observations underline the high quality governance needed to maximise the potential for regulatory agency success.

To understand whether a system of regulatory governance is good, or is in need of reform, it is important to determine the criteria for measuring regulatory quality. Regulatory governance quality can be evaluated in terms of the quality of the processes and the quality of the outcomes of the regulations (Baldwin et al., 2011). In assessing the outcomes of a regulatory regime, effectiveness and efficiency are yardsticks (Arrow, 1970). An effective regulation helps to achieve the social welfare objectives set down by the government for the regulatory authority (Baron, 1988). In developing countries, the social welfare objectives of regulation are likely to be less concerned with the pursuit of economic efficiency, but more with wider goals to promote sustainable development and the eradication of poverty (Borio, 2006). On the other hand, efficient regulation allows social welfare objectives to be achieved more economically (Baron, 1988). There are two forms of economic costs of regulation:

(a) administrative costs incurred directly due to the regulatory system, which are reflected in the budget appropriations of the regulatory bodies and authorised by the government; and

(b) costs of regulatory compliance; this cost is incurred externally by the regulatory agency and falls onto the producers and consumers, in terms of the economic costs of both adhering to the regulations and evading and avoiding them (Guasch and Hahn, 1999).

The capability, capacity and competence of the state of providing strong and reliable regulatory institutions are important determinants of how well markets perform (Dinar, 2000). A nation with a developed institutional capacity is more likely to be able to formulate and implement effective regulation, which may contribute to

improvement in the growth of the economy (World Bank, 2003). Good regulatory governance is characterised by predictable, open, progressive and enlightened policy-making, a bureaucracy built on professionalism, a strong civil society participating in public affairs, with an executive arm of the government accountable for its actions, and all following the rule of law (Campbell and Bhatia, 1998). The weaknesses in the institutional capacity to deliver good governance may adversely affect the economic development of the country (World Bank, 2002).

According to Kirkpatrick et al. (2004), regulatory institutions are relatively new to developing countries and therefore evidence showing the quality of regulation may be limited. Kirkpatrick et al. (2004) further add that the evidence that is available in developing countries reveals that the outcomes of post-privatisation regulation have been poor. In areas where research was conducted, a number of regulatory failures were exposed (Chong, and De Silanes, 2005). For example, Stern and Hodder (1999) carried out a study across Asia; their findings were that that there is a significant difference between the practices and a considerable shortfall when compared to regulatory best practices undertaken in the USA and the UK. Cook and Kirkpatrick (2003) also discovered that creating effective regulation and a competitive environment is a difficult and slow process in developing countries.

Regulation in Africa is being examined as part of individual sector initiatives, but these efforts are uncoordinated and implementation is left to follow privatisation instead of being put in place at the same time (Campbell-White and Bhatia, 1998). In relation to regulatory governance, the structures in these countries are associated with institutional failures and a bureaucratic approach that restricts enterprise (Laffont and Tirole, 1991). In Africa, regulatory authorities are characterised by a lack of clarity about roles and responsibilities and the adoption of policy-making roles independent of the government (Schwella, 2002). Knight-John (2002) observes that in Africa the policies governing the regulatory governance process have been ad-hoc and based on short-term political interests, with deficiencies apparent at each stage of the process. The transitional economies' experience also demonstrates much inconsistency in the performance of the newly established regulatory institutions (Cave and Stern, 1998).

Kirkpatrick et al. (2004) showed that limited regulatory governance capacity contributed to the instability of the financial sector during the 1997 Asian crisis. Kirkpatrick and Parker (2004) found that the liberalisation of the financial sector in African economies exposed the weakness of financial regulation and resulted in widespread bank failures and systemic weaknesses. The World Bank (2001) emphasises the importance of improving regulatory governance regimes and building institutions and capacity effectively to supervise the private sector. Similarly, the Asian Development Bank (2000) also stressed the need for improving the regulatory governance system. Kaufmann and Kraay (2002), Hall and Jones (1999) and Barro (2000) identified several fundamental contributing effects of good regulatory governance on higher per capita incomes in the long run, using regressions with instrumental variables on a cross-section of countries. The World Bank (2003), Chenard et al. (2004) and Malyshev (2006) suggested that in order for good regulatory governance to improve economic performance, the climate for capital creation should be enhanced. According to Kaufmann et al. (2010), differences in the effectiveness of public spending can be described by the quality of good regulatory governance. Olson et al. (1998) found that productivity growth is higher in countries with superior institutions and quality regulation and governance.

2.4 The dimensions of good regulatory governance system

Parker (1999) suggests that an effective regulatory governance regime is one that balances consistency, transparency and accountability. In this regard, Zhang (2010) noted that accountability requires the regulators to be accountable for their actions, to observe the rules of due process when arriving at their decisions, and to operate within their legal powers. Pelkmans et al. (2000) believe that transparency relates to regulatory decisions being reached in a way that is revealed to all interested parties. McCabe and Nowak (2008) stated that the process that provides regulatory legitimacy is consistency. Estache and Kouassi (2002) and Dinar (2000) argue that inconsistency in regulatory decisions undermines public confidence in a regulatory regime. Inconsistencies lead to investor uncertainty, which increases the cost of capital and thus diminishes the willingness to invest (Dinar, 2000). Political interference has the tendency to undermine regulatory reliability and the political elite are able to intervene and alter the regulatory policy for their own political

advantage (Parker, 2002). Regulatory consistency can easily be accomplished when there are independent regulatory arrangements (Dinar, 2000).

The principles of good regulatory governance such as due process, integrity, transparency, accountability and independence are beyond the measures of operational performance. These principles should guarantee good policy formulation and assist in reducing fraud by offering effective monitoring for fraudulent activities within the sector (IMF, 2004). The role of a regulatory agency in any nation is to regulate and ensure control within its jurisdiction, as well as ensuring adequate protection within its boundary. A number of studies (for example IMF, 2004; World Bank, 2003; OECD, 2002; and Quintyn et al., 2002) have identified that the following four prerequisites form the basis of good regulatory governance: (i) regulatory independence; (ii) regulatory accountability; (iii) regulatory transparency; and (iv) regulatory expertise.

2.4.1 Regulatory independence

One possible way to reduce the potential for interference in the regulatory process is the creation of independent regulatory agencies (OECD, 2002). This can be achieved, for example, by:

(a) insulating the regulatory agency from unnecessary interference from politicians and supervisory entities; and
(b) delegating tasks related to economic and social regulation to independent agencies (e.g. a specific ministry, or a local body) as opposed to a government agency (Quintyn et al., 2002).

Agency independence increases the likelihood of being able to make credible policy commitments. Parker and Kirkpatrick (2007) stressed that a good regulation governance system needs to be supported by parliamentary mandate. The public, through legislature, may instruct regulators to achieve certain results (Robert et al., 2012). Autonomy, as a requisite of agencies' regulatory governance, involves procedures, mechanisms and instruments aimed at guaranteeing the independence of the agency from political authorities, the independent management of the agencies managerial resources and the regulation of the sector (Pelkmans et al., 2000). According to Gilardi (2006), political autonomy signifies the level of the regulatory

agencies' independence from government authorities and is measured by indicators that reflect the autonomy of the agencies' decision-making. Likewise, managerial autonomy includes the freedom enjoyed by the regulatory agency to determine the management of its resources and is measured by indicators that reflect the powers of the agency to determine its organisational structure and the use of its budget (Quintyn et al., 2003).

2.4.2 Regulatory accountability

As stated earlier, effective independence cannot be achieved without adequate accountability. Gray et al. (1996) viewed regulatory accountability as the obligation to provide an account (not necessarily in monetary terms) or a reckoning of those actions for which one is held answerable. Thus, accountability involves two responsibilities: the mandate to embark on particular actions (or refrain from undertaking such actions) and the duty to provide an account of those actions (Gray et al., 1996). Lawal (2008) posited that accountability is greater than an undertaking to account for what has already been completed; rather it also involves the prerequisite for the validation of the reported activities and the willingness to face any consequences.

Accountability is essential for a regulatory agency if it is to justify its actions against the background of the mandate it has been given. Regulatory institutions should be accountable to those who delegated the responsibility (i.e. the government or the legislature) and to those who fall under their functional realm and to the public at large, the stakeholders (IMF, 2004; OECD, 2002). Regulatory accountability, as an aspect of an agency's governance, involves processes, instruments and mechanisms aimed at guaranteeing an adequate level of control over the agency's budget and performance by political authorities, namely the parliament. According to the UK's House of Lord's committee on constitution (2004, p.7):

> *Effective processes for achieving accountability are a key discipline on regulators, and are essential to maintaining both an effective regulatory framework and effective regulatory decision-making. Accountability is a control mechanism that is an integral part of the regulatory framework. Effective regulation therefore requires effective accountability.*

Hüpkes, et al. (2005) observed that providing proof of sound stewardship of public money and other actions to discharge accountability indicates that regulators are being effective in fulfilling the demands of the roles to which they have been appointed. The next section discusses the use of transparency as another beneficial attribute of regulatory governance framework.

2.4.3 Regulatory transparency

Transparency, in the context of regulatory governance framework, refers to an environment in which the agency's objectives, decisions and their rationale, data and other information, as well as terms of accountability are provided to the public in a comprehensive, accessible and timely manner (IMF, 2004). Transparency has increasingly been recognised as a component of good governance (Quintyn et al., 2003). Policymakers recognise that globalisation (in general) and the integration of financial markets and products (in particular) require a greater degree of transparency in monetary and financial policies and in regulatory regimes and processes, as a means of containing market uncertainty (OECD, 2000; IMF, 2004). Additionally, transparency has become a powerful vehicle for mitigating poor operational practices and policies. Transparency of procedures, mechanisms and instruments is intended to guarantee the disclosure and publication of relevant regulatory and institutional information, the participation of stakeholders in the agency's regulatory decisions and decision-making and the application of rules aimed at governing integrity, as well as the behaviour of agency officials (IMF, 2004; OECD, 2002). Regulatory transparency involves the use of indicators related to the involvement of non-institutional actors in an agency's policy-making, including their access to the agency's information. Institutional transparency is composed of indicators associated with the transparent management of the agency however; these indicators are not directly linked to stakeholder involvement. they include issues such as the publication of the agency's annual report, the use of norms of ethics, and the existence of public examinations for hiring employees (IMF 2004; OECD 2002).

To improve regulatory transparency in regulatory governance, consultation and communication are essential. Rodrigo et al. (2009, p.28) stresses that:

> *Transparency refers to the organisation of the way the state projects its regulatory powers to the society and the market, and it is fundamental in*

> *the regulatory process, from the initiation of the regulation, its formulation and drafting, to its implementation and review.*

To attain good regulatory governance practice, the regulators at all levels of government should ensure that the public participates in the regulatory process and that regulators communicate the costs and benefits of the policy reform for the smooth functioning of the regulatory system as a whole (Haufler, 2010). Quintyn (2002) believes that transparency is able to tackle several causes of regulatory failures, such as rigidity, inadequate information, market uncertainty, bias toward concentrated benefits, regulatory capture, lack of accountability and the inability to understand policy risk. Regulatory agencies need to increase the level of information accessibility to the public. Moreover, they also need to pay attention to a wider range of interests, as well as becoming more responsive to what is heard. Regulatory transparency can therefore advance the way in which regulators choose the most appropriate regulatory policy and helps to avoid arbitrary decisions during the implementation of regulations (IMF, 2004; OECD, 2002; Quintyn, 2002).

Nevertheless, a regulatory policy necessitates the involvement of various actors whose points of view and positions should be considered (Holland and Boon Foo, 2003). Indeed, the regulators cannot achieve consultation if the aims of transparency and openness in the process are not adhered to (Stern, 2000). The legitimacy of any regulation does not only depend on the actions of the regulatory agency, but also on the degree of public input (Rotimi and Abdul-Azeez, 2013). Decentralisation undeniably improves the credibility of the regulatory process if the principles of transparency and consultation with legitimate stakeholders are reinforced. Quintyn (2002) stated that public input into the regulatory process is capable of maximising the number of positive consequences; this can also ensure that the regulators are aware of public preferences. Similarly, regulatory transparency emphasises the role of clarity, which helps both regulated entities and the public to understand the particular regulation to which they need to adhere (Rodrigo et al., 2007).

2.4.4 Regulatory expertise

Regulators need to have the necessary skills to formulate sound policies for the benefit of society in general. A lack of capability and essential skills prevent many regulatory agencies from achieving good regulatory governance practices (OECD,

2005). In order to attain good regulatory governance it is essential that the regulators are highly trained in the field of regulation (IMF, 2004) and have the required expertise to make good regulatory decisions (World Bank, 2003). According to Kirkpatrick et al. (2002), it is fundamental that those working for regulatory bodies should have sufficient knowledge and have undergone thorough training to accumulate the skills required to administer a good regulatory governance system. Regulatory expertise cannot be achieved without integrity, which is the mechanism that ensures that agency staff is able to pursue institutional goals without compromising them because of their own self-interest (OECD, 2002; IMF, 2004). Integrity affects regulatory agency staff at various levels. The procedures for the appointment of agency heads, their terms of office and criteria for removal should be such that the integrity of the board's policy-making body is safeguarded (World Bank, 2000). The integrity of the regulatory agencies' daily activities is ensured through internal audit arrangements, to ensure that the agency's objectives are clearly set out and monitored and accountability is maintained (Quintyn, 2002). Thus, by ensuring the quality of the agency's operations, the integrity of the institution is maintained and its credibility appears strengthened to the outside world (IMF, 2000). Integrity also implies that certain standards are expected regarding the personal affairs of officials and staff, to prevent the exploitation of conflicts of interest. Assuring integrity also implies that the regulatory agency staff enjoys legal protection while undertaking their official duties. Without legal protection, the objectivity of the staff would be contested and staff would be left open to bribery or threats, resulting in the overall effectiveness and credibility of the institution suffering (OECD, 2002; IMF, 2004).

2.5 Conclusion

The chapter reviewed the reasons for government regulation and discussed the concept of regulatory governance and the framework for good regulatory governance system. Accordingly, regulatory independence, regulatory accountability, regulatory transparency and regulatory expertise as principles of good regulatory governance were reviewed in the chapter. The review concludes that for regulatory agencies to achieve their mandate, they have to be free from external interference. In addition, adequate independence arrangements, accountability and transparency mechanisms should be in place.

CHAPTER THREE

Nigeria's downstream petroleum sector: an overview

3.1 Introduction

The previous chapter studied the concept of regulatory governance. The aim of this chapter is to provide an overview of Nigeria's downstream petroleum sector and identify the challenges facing it. Section 3.2 reviews the development of Nigeria's downstream petroleum sector. The structure of Nigeria's downstream petroleum sector is presented in Section 3.3 and Section 3.4 identifies and reviews the regulatory functions of Nigeria's downstream regulatory agencies. Section 3.5 examines the regulatory governance issues in the petroleum industry in general and Nigeria's downstream petroleum sector in particular. The chapter is concluded in Section 3.6

3.2 Historical development of the downstream petroleum sector in Nigeria

Prior to the discovery of oil within the country in 1956, Nigeria's downstream petroleum began as a market structure where the prices of petroleum products were determined by the forces of supply and demand (Nigerian National Petroleum Corporation (NNPC), 2012). Multinational oil companies largely controlled marketing of petroleum products. This continued until 1973 when the government initiated uniform pricing of petroleum products to ensure equal distribution of products nationwide (Badmus, 2013; Azaiki, 2007; Ayoade, 2002). The downstream petroleum sector includes all activities following the delivery of crude oil to processing plants for refining, conversion and value addition into gasoline, diesel, kerosene and petrochemicals, including transportation, storage, marketing of the finished products and associated services (Ayoade, 2002). The value chain entails the supply of crude oil to the refineries, primary distribution from refineries to terminals, secondary distribution to depots and distribution to retail outlets for marketing (Badmus, 2013). In a country where nearly 80% of urban family incomes are spent on food, rent and transportation costs, the price of cooking gas, kerosene and gasoline constitute a significant share of the cost of living (Ayoade, 2002).

The downstream petroleum operation in Nigeria is dominated and controlled by state-owned enterprises (Ehinomen and Adeleke, 2011). The government is

responsible for regulating and controlling the petroleum price through its regulatory agencies (Baghebo and Atima, 2013; Coady et al., 2007; Ehighelua, and Ekpu, 2004). Before 1966, Nigeria's economy was supplied with petroleum products through private sector imports by multinationals such as Shell, Esso, BP and Total. The first refinery in Nigeria was commissioned in 1966 and had a capacity of 35,000 barrels per day (bpd). This domestic production, supplemented by imports, served the nation until the early 1970s when demand exceeded supply and nationwide shortages developed (Baghebo and Atima, 2013).

In 1975, the Federal Military Government appointed a committee of inquiry to examine the root causes for the shortages of petroleum products. The panel determined that: (1) national demand had outstripped domestic refining capability; (2) local marketing companies lacked the financial resources to undertake the importation of substantial quantities of petroleum products required to augment domestic production; (3) oil marketers lacked the resources and ability to construct infrastructure and facilities to receive and distribute products to all consumption centres in the country; and (4) oil marketers lacked the technology and capability to construct large capacity refineries to satisfy Nigeria's demand (Ehinomen and Adeleke, 2012; Azaiki, 2007).

Based on these findings, the government took control over the importation of petroleum products from oil marketing companies, expanded the domestic refining capacity, product importation and reception facilities as part of a nationwide system of pipelines to facilitate the distribution of petroleum products in the long run (Gboyega and Soreide, 2011). The government formulated and implemented the following policies including the Petroleum Control Decree legislation that was passed, and gave the Minister of Petroleum Resources the powers to import and fix the price of petroleum products. Secondly, the Petroleum Equalisation Fund Decree was also enacted to ensure that prices of petroleum products remained the same all over the country. In addition, the government had majority ownership of the major petroleum marketing companies (Shell, BP, Esso, Mobil and Total) during the implementation of the 1970s Indigenization program (NNPC, 2012). finally, the government, through the NNPC, expanded the domestic refining capacity by contracting the building of refineries in Warri, Kaduna and Port Harcourt which were

completed in 1978, 1980, and 1989 respectively, with a total refining capacity of 445,000 bpd (Badmus, 2013; Ezeagba, 2005).

The Nigerian downstream petroleum sector is not as developed as the upstream, as most of the operations, apart from the NLNG and a few other projects, are operated by the government as a monopoly (Adenikinju, 2009). A proposed Downstream Gas Act, intended to regulate the downstream gas sector, was developed with the assistance of the World Bank and is currently before the National Assembly.

3.3 Structure of Nigeria's downstream petroleum sector

The government is the major actor in the Nigerian downstream petroleum sector. The following subsidiaries of NNPC are the key players in the sector: (1) The Department of Petroleum Resources (DPR); (2) the Petroleum Products Pricing Regulatory Authority (PPPRA); (3) the Petroleum Equalisation Fund (PEF); and (4) the Pipelines and Products Marketing Company (PPMC). Private firms include indigenous and overseas private companies.

Independent oil marketing was introduced in 1979 with the aim of bringing indigenous participation in the downstream petroleum sector (Ehinomen and Adeleke, 2012). In 1979, when the policy was first introduced, there were no more than twenty independent oil marketers participating in the scheme (Eme and Onwuka, 2011; Ezeagba, 2005). Fourteen years later the number of indigenous independent oil marketers had increased from 20 to about 550. In 1981, the indigenous oil marketers contributed less than 0.5% in terms of volume of petroleum products marketed in Nigeria (Ehinomen and Adeleke, 2012). Presently, the indigenous marketers account for about 40% of the volume of products marketed in the country (Ezeagba; 2005). There are nearly 10,200 retail outlets across the country owned by major oil marketers and independent oil marketers (PPPRA, 2012). The NNPC owns eighteen mega-stations in the country. According to Ehinomen and Adeleke (2012), independent oil marketers are competing with the six major oil companies that control about 60% of the downstream markets:

1. African Petroleum plc

2. Oando Nigeria plc
3. Con Oil plc
4. Total Nigeria plc
5. MRS Nigeria plc
6. Mobil Oil Nigeria plc.

Downstream activities include gas treatment, crude oil and gas conversion into refined and petrol chemical products and the transportation and distribution of refined products (Gboyega et al., 2011). These activities are increasingly moving within the control of private entrepreneurs, especially indigenous independent marketers (Akpieyi, 2009). It is a policy of the federal government that petroleum products are distributed by private companies (NNPC, 2012). On this note, the government established agencies to regulate activities in the sector. Due to the strategic importance of the downstream sector to Nigeria's economy, the federal government formulated the following objectives in 1999 to ensure the effectiveness of the sector (Iwayemi, 2008):

(a) maintaining self-sufficiency in refining
(b) ensuring regular and uninterrupted domestic supply of petroleum products at reasonable prices
(c) establishing facilities and infrastructure for the production of refined products targeted at the export market and supporting domestic petrochemicals; and
(d) providing gainful employment and enabling Nigeria's people to acquire technical expertise in the refining and distribution business.

The PPMC is an entity responsible for the transportation of NNPC's crude oil to refineries in Nigeria (PPMC, 2012). It also imports, distributes and markets refined products through its pipelines. The following petroleum and its by-products are expected to be distributed by the PPMC:

- Household Kerosene (HHK)
- Premium motor spirit (PMS OR PERTOL)
- Industry Fuel
- Automotive Gas Oil (AGO or Diesel)

- Bitumen
- Aviation Turbine Kerosene (ATK or jet-Al)
- High pour Fuel Oil (HPFO)
- Low pour Fuel Oil (LPFO)
- Liquefied petroleum Gas (LPG)
- Base oil (BO).

The government has established over 5,000 kilometres of crude oil and refined products pipeline transmission and distribution network across the country and twenty-one depots were also constructed nationwide (Oyekunle, 2011; Ogri, 2001). The NNPC also owns nine LPG depots, which have been largely underutilised since their inception in 1995 due to the shortage of LPG from the refineries and logistic problems in the supply of imported LPG to mostly upcountry depots (DPR, 2012). At present, there are four major refineries under the control of the NNPC. Table 3.1 shows the refining capacity of each of the refineries.

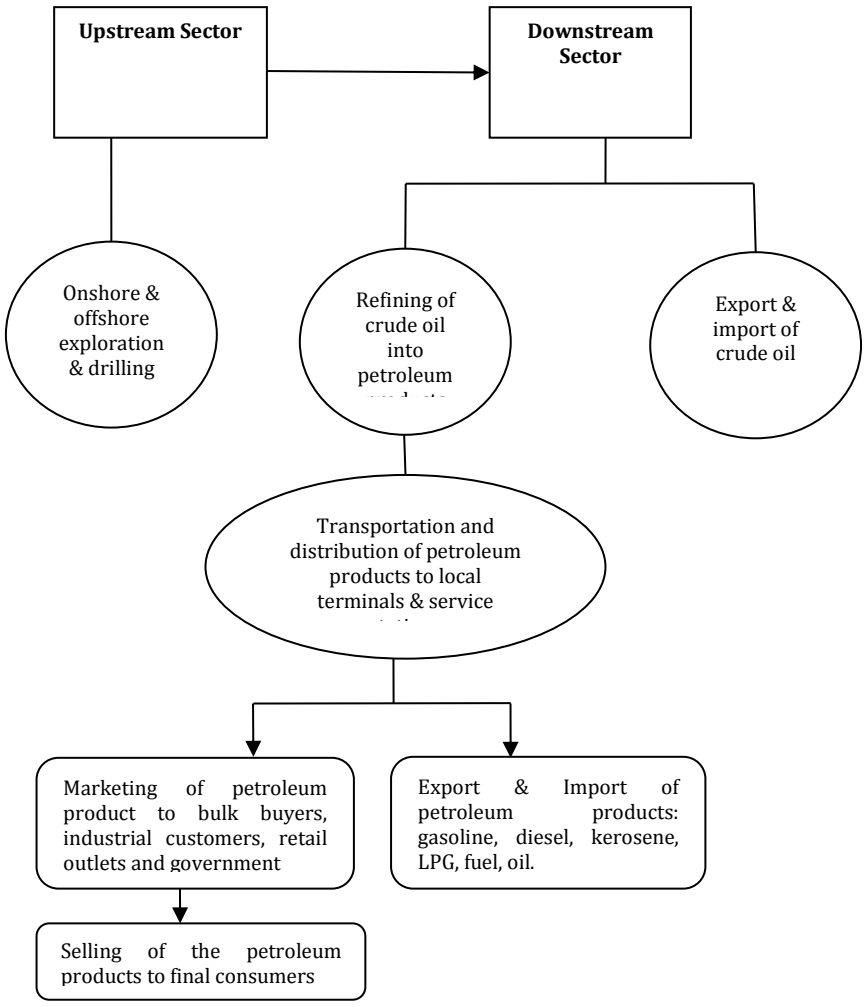
Table 3.1: Refining capacity of the four refineries under the control of the NNPC

S/N	Refinery Location	Commissioned year	Installed refining capacity (bpd)	Upgraded bpd
1	Port Harcourt Refinery	1965	35,000	60,000
2	Warri Refinery	1978	100,000	125,000 in 1986
3	Kaduna Refinery	1980	100,000	110,000 in 1986
4	Eleme Port Harcourt Refinery	1989	150,000	

Source: NNPC, 2012.

By 1989, the installed capacity of these four refineries was equal to about 140% of domestic demand. The reason for constructing the Eleme Port Harcourt Refinery was primarily to export its output, though this was achieved only over a short period (Nwokeji, 2007). Apart from the pipelines and the depots, the government owns twenty marine tankers to transport the petroleum products from the coastal refineries to other locations in country (PPMC, 2012). Indeed, the petroleum products are sourced either from local refineries, or in the event of a supply shortfall, from offshore refineries by importation (Ehinomen and Adeleke, 2012). The transportation

of the petroleum products from the depots is the responsibility of the six major oil-marketing companies and other independent oil marketers (PPMC, 2012). The imported refined products are usually received at the NNPC-PPMC depots at Atlas Cove. The petroleum products are then moved to nearby depots at Mosimi in Shagamu, from where they are pumped into different depots through the pipelines (Nwokeji, 2007). Booster pump stations are provided along the route and between adjoining depots, an arrangement necessary to boost the flow of products in the pipelines along the route (Akande, 1982.). Figure 3.1 provides a summary of the downstream structure.



Source: NNPC, 2012.

Figure 3.1: A summary of the downstream structure.

3.3.1 The regulation of Nigeria's downstream petroleum sector

Nigeria's downstream petroleum regulations were first set out in the Petroleum Act, 1969 and amended in 1990 and 1998. The Act is the primary petroleum regulatory structure of the country, as well as being the principal regulations of the downstream sector (Nwachukwu and Edikpa, 2009; Ayoade, 2002). This implies that all the activities in downstream sector are subject to the Petroleum Act and the regulations thereafter, or any which may come into force. The Act vested the Minister of Petroleum Resources with the power to regulate the activities of the downstream sector through the regulatory bodies (Petroleum Act, 1998). The principal regulation, the Petroleum Act 1969, includes a number of general provisions for downstream regulation. Section 9 (sub-sections 1 and 2) provide that the Minister may:

a) regulate the construction, maintenance and operation of installations used in pursuance of this Act;
b) regulate refineries and refining operations and where two or more refineries are in operation, specify:
    i. the proportion or quantity of crude oil to be supplied to each refinery;
    ii. the share of each refinery in the total market; and
    iii. dictate the prices of refinery products;
c) regulate the importation, handling, storage and distribution of petroleum, petroleum products and other flammable oils and liquids, and in particular (without prejudice to the generality of the foregoing):
    i. prohibit the importation or exportation of petroleum or petroleum products, except at specified ports or places;
    ii. prescribe the notice to be given (and the person by whom the same shall be given) on the arrival at a port of a ship carrying petroleum or petroleum products as cargo;
    iii. define dangerous petroleum and dangerous petroleum products, prescribe anchorages for ships carrying dangerous petroleum or dangerous petroleum products as cargo and require those ships to proceed to and remain at those anchorages;
    iv. regulate the loading, unloading, transport within a port, landing, trans-shipment and shipment of petroleum and petroleum products;

v. provide for the licensing of lighters and other craft to carry petroleum and petroleum products within a port;

vi. prescribe the conditions and restrictions to be imposed upon vessels arriving at a port after transporting petroleum, petroleum products, dangerous petroleum or dangerous petroleum products;

vii. provide for the examination and testing of petroleum and petroleum products, and decide on which tests to be applied to ascertain its flash-point and the method of applying those tests; and

viii. subject to subsection (2) of this section, may regulate the transport of petroleum and petroleum products, prescribe the amount of petroleum and petroleum products which may be carried in any vessel, cart, truck, railway wagon or other vehicle, the manner in which they shall be stored when being so carried, the receptacles in which they shall be contained when being so carried and the quantities to be contained in those receptacles, and provide for the search and inspection of any such vessel, cart, truck, railway wagon or other vehicle;

f) confer or impose on public officers, for the purposes of this Act, powers and duties additional to those conferred or imposed by section 8 of this Act

g) where paragraph (a) of this subsection does not apply, it may determine the:

i. forms to be used for the purposes of this Act; and

ii. the fees to be charged in connection with the operation of this Act (including, without prejudice to the generality of the foregoing, fees arising from the Minister granting permission and for the supply of any document or other material, the execution of any examination and of any other action by him); and

h) provide for such other matters as, which according to him, may be necessary or desirable in order to give proper effect to this Act.

(2) Regulations made under subsection (1) (e) (viii) of this section shall apply only where petroleum or petroleum products are being transported:

a) on the waters mentioned in item 36 (a) and (b) of Part I of the Second Schedule to the Constitution of the Federal Republic of Nigeria 1999; or

b) by railway or transport ancillary thereto; or

c) on trunk roads within the meaning of item 62 of that Part of that Schedule.

Section 10 of the act provides an obligation to pay any fees, rent, royalty, premium or other sum imposed by, or under this Act, shall be discharged if and only if, the payment is made within the time provided by or under this Act (or, where no time is so provided, within a reasonable time) to the Minister or his duly authorised representative.

Section 13 (sub sections 2, 3 and 4) of the Act also provide that:

(2) Any person who:

a) constructs or operates a refinery in Nigeria without a licence granted under section 3 of this Act; or

b) in any land to which section 1 of this Act applies:

iv. undertakes, without the appropriate licence, any act for which a licence is required under any regulations made under this Act, shall be guilty of an offence and on conviction, shall pay a fine not exceeding ₦2,000 (about £8).

(3) Any person who contravenes any provision of an order made under section 6 of this Act shall be found guilty of an offence and on conviction shall be liable to a fine not exceeding ₦2, 000.

(4) Where a person is convicted of an offence under subsection (2) or (3) of this section, in respect of any petroleum or petroleum products, then, in addition to any penalty imposed under the subsection in question, the convicting court may—

a) order the petroleum or petroleum products to be forfeited; or

b) order that person to pay to the Minister the value of the petroleum or petroleum products.

(Source: Petroleum Act 1969, amended in 1990 and 1998)

Thus, it is based on the primary legislations above that the regulatory responsibilities of the downstream regulatory agencies were set out to enable an effective and efficient formulation and the implementation of the regulatory policies in the sector. The section below discusses the regulatory agencies in the Nigeria's downstream sector.

3.4 The downstream regulatory agencies

According to the 1999 Constitution of the Federal Republic of Nigeria (CFRN), all minerals, mineral oils and natural gas in Nigeria are vested in the Government of the Federation for the benefit of all Nigerians (CFRN, 1999). Petroleum operations and activities are regulated primarily by federal agencies, although some state governments and local governments also have regulations and bylaws that affect activities in the oil and gas industry (CFRN, 1999).

The government agencies predominantly granted power to regulate all matters relating to downstream activities include the DPR, the PPPRA and the PEF. These agencies are under the control and supervision of the Ministry of Petroleum Resources (Hossain, 2003). The Ministry of Petroleum Resources (MPR) has overall responsibility for the regulation and supervision of the petroleum industry (CFRN, 1999). The Ministry is also responsible for the formulation, implementation and coordination of government policy for the sector through its regulatory agencies. The agencies are headed by executive secretaries who enjoy a special status and wide powers under the petroleum laws and regulations. These agencies are given the power under the petroleum legislations to make subsidiary legislation for the regulation of petroleum activities through the Minister of Petroleum Resources (CFRN, 1999).

The Petroleum Act of 1969 formed the legal basis for activity in both the upstream and downstream petroleum sector. Other legislation that regulated the petroleum

sector included the Oil Pipelines Act of 1956 and amendments, the Hydrocarbon Oil Refineries Act of 1965, the petroleum (drilling and production) regulations of 1969 and the 1990 amendment, the petroleum (refining) regulations of 1974 and 1977, the Associated Gas Re-Injection Act of 1979 and amendments, the Federal Environmental Protection Agency Act of 1988, the Nigeria LNG Decree of 1990, and the Petroleum Profits Tax Act of 2004 (Department of Petroleum Resources (DPR), 2012).

3.4.1 Department of Petroleum Resources

The DPR began as the Hydrocarbon Section of the Ministry of Lagos Affairs in the early 1950s (DPR, 2010). It was the first statutory agency set up to supervise and regulate the petroleum industry in the country. At the time, it reported to the Governor-General. Later, the section was upgraded to the Petroleum Division within the then Ministry of Mines and Power (Jaidah, 1978). In 1970, the Division became the Department of Petroleum Resources (DPR). In 1971, a new body called the Nigeria's National Oil Corporation (NNOC) was created to engage in commercial activities in the petroleum industry, with the Department continuing to perform statutory supervision and control duties in the oil industry (Jaidah, 1978). In 1975, the Department was incorporated into the Ministry of Petroleum Resources (MPR) after energy matters were excised and transferred to another arm of the government. Through the proclamation of Decree 33 in 1977, the MPR and the NNOC were merged to form NNPC. This was a bid to optimise the utilisation of the then scarce local manpower resources in the industry's public sector (Odulari, 2008). The Decree also established the Petroleum Inspectorate as an integral part of the Corporation and granted it a semi-autonomous status, with its Head reporting to the Minister of Petroleum Resources, who also doubled as Chairman of the NNPC (Petroleum Act, 1969). The industry was continually regulated by the Petroleum Inspectorate but was barred by the Decree from engaging in any commercial transactions, or being involved in the commercial decisions of the Corporations. In 1985 a new Ministry of Petroleum Resources (MPR) was again formed, while the Petroleum Inspectorate remained in the Corporation and retained its regulatory functions. In 1988, with the commercialisation of the NNPC, the Petroleum Inspectorate was excised from the Corporation, due to the non-commercial nature of its functions, and was merged with

the new MPR to form its technical arm. The Department has continued to oversee all the activities of companies licensed to engage in any petroleum activity in the country, with the objective of ensuring that national goals and aspirations are fulfilled and that oil companies carry out their operations according to international oil industry standards and practices (DPR, 2012). It maintains records and other data regarding the oil industry's operations and informs the government about all activities and occurrences in the petroleum industry. The DPR discharges a number of duties, including representing the government at domestic and international level and at OPEC meetings (particularly during quota negotiations).

3.4.1.1 The DPR's downstream regulatory functions

The Petroleum Inspectorate, which was responsible for regulation, was removed from the NNPC structure in 1986 and recreated as the DPR. The DPR is headed by a Director General who is responsible for setting the standards for the effective control of the petroleum industry (Mmadu and Akan, 2013).

According to the Decree 1969, the DPR's general responsibilities and objectives are to ensure: compliance with petroleum laws and regulations through the monitoring of the operations of the upstream and downstream companies; the full development of Nigeria's petroleum resources; and the protection of all oil and gas investments (foreign, local, public and private) (DPR, 2012). However, section 7 (1) of the Decree 1969 and Regulation 25 of the mineral oils (safety) Regulation 1963 confer the power of arrest and a magistrate on officers of the department of petroleum resources in certain circumstances (DPR Act, 2012).

The Department of Petroleum Resources has been vested with the necessary powers by various legal provisions to discharge its regulatory functions and responsibilities. Table 3.2 identifies the relevant legislations.

Table 3.2: DPR legislation

NO	LEGISLATIONS/DECREES/GUIDELINES	YEAR
1	Government Notice No. 596	1990
2	Petroleum (Drilling and Production (Amendment) Regulations	1990
3	Nigeria LNG (Fiscal Incentives Guarantees and Assurances (amendment) Decree	1993,18th Nov. 1993
4	Deep Offshore and Inland Basin Production Sharing Contracts (Amendment)	1999
5	Petroleum (Amendment) Decree	1996
6	Petroleum (Amendment) Decree No.23,	1998
7	Petroleum refining (Amendment) regulation	1996
8	Petroleum (Drilling and Production) (Amendment) Regulation	1996
9	Customs Excise, Tariff, Etc (Consolidation) Amendment	1996
10	Customs Excise, Tariff, Etc (Consolidation) Amendment	1997
11	Customs Excise, Tariff, Etc (Consolidation) (Amendment) Decree	1999
12	Territorial Waters (Amendment) Decree	1998
13	Customs Excise, Tariff, Etc (Consolidation) (Amendment) Decree	1998
14	Minerals oil (Amendment) Decree	1998
15	Nigeria Mining Corporation (Amendment) Decree	1998

Source: DPR website, 2012.

The following DPR regulatory mandates were drawn from the above legislations.

1) Supervising all petroleum industry operations being carried out under licences and leases in the country, in order to ensure compliance with the applicable laws and regulations in line with good oil producing practices.
2) Enforcing safety and environmental regulations and ensuring that those operations conform to national and international industry practices and standards.
3) Keeping and updating records on petroleum industry operations, particularly on matters relating to petroleum reserves, production and exports of crude oil, gas and condensate, licenses and leases, as well as producing regular reports on the above for the government.

4) Advising the government and relevant agencies on technical matters and policies that may have impact on the administration and control of petroleum.
5) Processing all applications for licenses to ensure compliance with established guidelines before making recommendations to the Honourable Minister of Petroleum Resources.
6) Ensuring timely and adequate payments of all rents and royalties when due.
7) Monitoring the Government Indigenisation policy to ensure that local content policy is achievable.

These functions cover all petroleum operation activities, upstream and downstream, as well as petrochemical. The DPR attempted, with limited success, to adopt remedial enforcement tools. These included compliance monitoring within the context of the Petroleum Act and model clauses incorporated into the licence pursuant to the Petroleum Regulations. Equally, environmental issues were not given sufficient prominence until after the dumping of toxic wastes of Italian origin in Koko Port, Bendel State (now Delta State), in May 1988 under a purported private arrangement with the local inhabitants of Koko. This was the catalyst for environmental enforcement and reacting to widespread public condemnation of the event, the government immediately promulgated the Harmful Waste (Special Criminal Provisions) Act 1988 No. 42 (Laws of the Federation of Nigeria 1990, Cap.165), which came into force on 25 November 1988.

3.4.2 Petroleum Product Pricing Regulatory Agency

In August 2000, the government set up a special committee, consisting of thirty-four members drawn from various stakeholders and other interest groups, to review the supply and distribution of petroleum products, with the aim of looking into the problems associated with Nigeria's downstream petroleum sector (PPPRA, 2012; Makwe; 2006). Prior to setting up the Committee, the downstream sector was characterised by the following problems:

1) Scarcity of petroleum products leading to long queues at service stations.
2) Low capacity utilisation and refining activities at the nation's refineries (poor state of the refineries).
3) Frequent fire accidents due to mishandling products – product adulteration.

4) Pipeline vandalisation.
5) Large-scale smuggling, due to unfavourable economic products prices at the borders with neighbouring countries.
6) Low investment opportunities in the sector.

In October 2000, the Committee submitted its reports and the government meticulously studied the recommendations and published its findings in a government White Paper. Some of the far-reaching recommendations of the committee accepted by the government in its White Paper are as follows:

1. Operational facilities at the depots and the pipelines should be repaired immediately.
2. To prevent further malpractice, all coastal supplies of AGO transported through nominated company vessels should be stopped, as subsidies to the target group (National Electric Power Authority (NEPA), rig operators) were not justified.
3. Restructuring of the NNPC and its subsidiaries should be commenced, by establishing a committee in the first quarter of 2001.
4. All roads leading to the refineries and depots should be dualised to allow easy access and improve efficiency of operations.
5. Current efforts to resuscitate the Nigeria Railway system by the government should be sustained.
6. The government should deregulate and liberalise the import of petroleum products by other parties and the prices of products should be based on import parity to enhance and encourage the participation of other players, other than the NNPC.
7. All four government refineries should be privatised and the establishment private refineries should be encouraged.
8. Loading capability of all marine-fed depots should be expanded.
9. A pipeline management authority for the management of pipelines and depots should be established, which will charge both private and public users a tariff per throughput litre of products.
10. A downward review of the National Ports Authority (NPA) ports charges to a comparable level with other ports in the world should be carried out.

11. A Petroleum Products Pricing Regulatory Agency, with sufficient autonomy to superintend the various phases of the proposal embodied in the report Special Committee on the Review of Petroleum Products Supply and Distribution (SCRPPSD), especially the liberalisation of the downstream sector of the petroleum industry, should be established immediately (PPPRA, 2012; Makwe; 2006).

With the majority of the recommendations in the SCRPPSD report as set out in the White Paper being accepted, a Presidential Technical Campaign Committee for the liberalisation of the downstream sector of the petroleum industry, headed by the then Special Assistant to the President on Petroleum and Energy matters, took steps to sensitise the Nigerian public to the need for deregulation and liberalisation of the downstream sector (Ogwumike and Ogunleye; 2008; PPPRA Act, 2003). The result of that campaign, which saw the Committee visiting State Governors, traditional rulers and various interest groups, was that deregulation and liberalisation were the only viable options the government could adopt to attract investments into the sector and to remove the recurrent and endemic problem plaguing the sector (Makwe, 2006).

Overwhelmed with the success of the campaign for the liberalisation of the downstream sector, on March 8th 2001 the government set up the Petroleum Products Pricing Regulatory Committee (PPPRC) as an interim measure to carry out the functions of the PPPRA, as recommended by the SCRPPSD, while waiting for the enactment of the Act of the National Assembly for the setting-up of the PPPRA, as required in a democratic government (Okafor, 2007a, 2007b). The PPPRC was inaugurated by the Secretary to the government. After a series of meetings with stakeholders and interest groups, the PPPRC accepted that pricing was a condition precedent for deregulation and liberalisation. Therefore, on January 1st 2001, it commenced the phased liberalisation of the downstream sector by announcing the selling prices for PMS, AGO and HHK at N26, N26 and N24 per litre respectively (Okolo and Etekpe, 2010; Okafor, 2007). The consumption tax of N3.00 per litre of product was abolished while an import duty of N1.50 per litre was introduced. The sale of crude to NNPC at $9.50 per barrel was raised to $18.00 per barrel. In order to encourage importation and to stabilise the prices of petroleum products, the

government announced the removal of import tax of N1.50 per litre on 2nd July 2003.

The Senate and the House of Representative finally passed the bill for the establishment of the PPPRA, submitted on March 2001 to the National Assembly, on 5th February 2003 and 22nd May 2003 respectively. The President assented to the bill in May 2003 and inaugurated the Agency's board on 19th June 2003. With the establishment of the PPPRA, the opportunity for full deregulation and liberalisation of the downstream sector opened the way for all stakeholders in the sector to play their part, according to the rules and guidelines set out by the PPPRA based on its functions (PPPRA, 2012; Makwe, 2006). The PPPRA was established by the Petroleum Products Pricing Regulatory Agency (Establishment) Act 2003 as an autonomous agency to determine the pricing of petroleum products and to regulate their supply and distribution. The PPPRA, by its mandate, also has the responsibility to manage the Federal Government's deregulation policy in the downstream sector (Okolo and Etekpe; 2010; Okafor, 2007).

3.4.2.1 The regulatory functions of the PPPRA as set out in the 2003 Act

The 2003 Act establishing the PPPRA mandated the Agency to:

1. determine the pricing policy of petroleum products;
2. regulate the supply and distribution of petroleum products;
3. establish an information and data bank through liaison with all relevant agencies to facilitate the making of informed and realistic decisions on pricing policies;
4. moderate volatility in petroleum products prices, while ensuring reasonable returns to operators;
5. oversee the implementation of the relevant recommendations and programmes of the federal Government, as contained in the White Paper on the Report of the SCRPPSD, as specified in the second schedule to the Act which relate to its functions, taking cognisance of the phasing of special proposals;
6. establish parameters and codes of conduct for all operators in the downstream petroleum sector;

7. maintain constant surveillance over all key indices relevant to the pricing policy and periodically approve benchmark prices for all petroleum products;
8. identify macro-economic factors with relationship to the prices of petroleum products and advise the federal Government on appropriate strategies for dealing with them;
9. establish firm linkage with key segments of Nigeria's society, and ensure that its decisions enjoy the widest possible understanding and support;
10. prevent collusion and any restrictive trade practices harmful to the sector;
11. exercise a mediatory role as necessary for all the stakeholders in the sector;
12. carry out any other functions which the national Assembly may confer on the Agency from time to time; and
13. carry out other such activities as appears necessary or expedient for the full and efficient discharge of its functions under the Act.

(PPPRA, 2012)

Various analysts criticised the creation of the PPPRA. According to Nuhu-Koko (2008), the establishment of the PPPRA is nothing but an additional bureaucratic burden on top of those already in existence. Industry experts are of the opinion that the regulatory agencies have inter-related regulatory responsibilities, which create confusion and results in the improper execution of government policies (Okafor, 2007). For example, the establishment of the PPPRA clearly duplicates some of the functions of the existing DPR.[3] Over the years, policy inconsistencies and regulatory overload, brought on by competing regulatory agencies, have made it impossible to implement an integrated regulatory framework that caters to the needs of operators in the energy sector (Nuhu-Koko, 2008; Okafor, 2007).

3.4.3 Petroleum Equalisation Fund

The PEF is a regulatory agency under the MPR established by Decree No.9 in 1975 (as amended by the 1989 Decree No. 32), mainly to administer uniform prices of

[3] For example, while the DPR is saddled with the responsibility of inspecting and monitoring the operations in upstream and downstream sectors of the oil and gas industry, agencies like the PPPRA also find themselves involved in a similar role of monitoring the supply and distribution of petroleum products in the domestic market (Nuhu-Koko, 2008).

petroleum products throughout the country. This is achieved by reimbursing the marketer's transportation differentials for petroleum products movement from the depots to their sales outlets (filling station), in order to ensure that products are sold at a uniform pump price throughout the country (PEF, 2012; Onuoha, 2008). The source of the Fund comes from the net surplus revenue recovered from oil marketing companies. The PEF has an operational office in Lagos, 5 zonal offices and twenty-two depot offices located at the twenty-one NNPC depots and marketers' storage facilities at Apapa and Ibafon. The agency is headed by the Executive Secretary, who is the Chief Administrative Officer, responsible for the day to day operations of the Fund (PEF, 2012).

Notwithstanding these arrangements, in 1979 the government was concerned that petroleum products supplies were not reaching other parts of the country, particularly remote areas, and so a bridging scheme was introduced to encourage major oil marketers to build filling stations in those areas (Okafor, 2007a; 2007b). The bridging scheme was initially established as a short-term solution during turn-around maintenance (TAM) of the refineries to support marketers in transporting petroleum products nationwide. Even though bridging was supposed to be a temporary measure until the refineries resumed production at full capacity, the status of the refineries has deteriorated over the years (NNPC, 2012). Indeed, vandalisation of the pipeline by militants and economic saboteurs has been on the increase, to the extent that trucks have become the principal means of distributing petroleum products in recent times (PPMC, 2012).

Initially the government projected that only 10% of total petroleum products would be transported by trucks (bridged), with the remaining 90% being distributed through the pipelines (PEF, 2012). According to the PEF, at present approximately 40% of the petroleum products are bridged annually (PEF, 2012; Onuoha, 2008).

Indeed, at the inception of the National Transportation Allowance (NTA) the equalisation scheme was restricted to just eight major marketing companies. However, today, like the bridging and inter-district schemes, it has been extended to 6 major marketing companies, Depot and Petroleum Product Marketers Association (DAPPMA) operators and over 9,000 independent members of the Petroleum Marketers Association of Nigeria (IPMAN) (PEF, 2012; Onuoha, 2008).

According to the PEF, in order to ensure the effective implementation of the equalisation function and the uniform pricing of petroleum products, the country needed to be divided into depot districts, which were then further sub-divided into zones. A depot district is the part of the country served by particular depot. There are presently twenty-one depot districts, which are further, sub-divided into 50 km areas known as zones. These zones are progressive bands having a 50 km radius, with the depots being the centre point of a maximum of nine zones; that is, a total of 450 km. Each outlet is allocated to a depot and the distance between them determines the transport cost of moving the product, which is the only variable factor in uniform pricing. This arrangement was undertaken using the Transportation Differential Zone (TDZ) map. To ensure equalisation, all marketers are required to submit returns to the PEF detailing the products lifted from each depot and transported to the respective zones within the district. The net effect of the returns culminates in either a claim from, or a contribution to the fund.

For every litre of petroleum product transported within zones 1 and 2, the marketer has a transport allowance built into the price of the products, which the marketer holds in trust on behalf of the consumer and is required to submit to the Board. Furthermore, for every litre of product transported from zone 3 to zone 9, additional claims are submitted to the PEF for the additional transportation average. Thus, the Board reimburses the marketer for the losses incurred, solely and exclusively, for transporting the products for sale at a uniform price in those zones.

Bridging has been defined as the movement of petroleum products outside a depot district (of a distance exceeding 450 km). The importance of bridging is underscored by the need to ensure equitable product distribution to all parts of the country and consequently prevent shortages. The bridging transportation rates are determined by the distance between the product loading depot and the receiving depot, as bridging trucks report to the nearest depot in the area of discharge for a product audit before a point of discharge is allocated (PEF, 2012). Bridging volumes and costs have risen tremendously over the years as pipeline, depot facilities have deteriorated, and truck operating costs have increased due to continued depreciation in the value of the Nigerian Naira and other macro-economic factors.

A bridging allowance is the payment made on every litre of petroleum product (white product) lifted from any depot, regardless of whether the product is bridged or not. The marketers pay the bridging allowance upfront when buying the products from PPMC. The amount is determined by the PPPRA when setting the pump price. In turn, the PPMC remits the accrued monies to the PEF to be used for the reimbursement of marketers participating in the road haulage of petroleum products.

3.4.3.1 The regulatory functions of the Petroleum Equalisation Fund

The legislative mandates of the PEF, as provided by Decree No. 9 of 1975 and as amended by Decree No. 32 of 1989 (now Chapter 352 of the Laws of the federation 1990) are as follows:

1. To apply the laws of the Federal Republic of Nigeria as they affect the uniform pricing system, in ensuring that each marketing company complies with the laws regarding the management of the transportation equalisation process, and
2. To equalise the transportation differentials in white product marketing.

In broad terms, the Board performs two basic functions:

1. The administration of the price equalisation scheme to ensure the authority of the government policy of uniform pump prices for petroleum products nationwide;
2. The administration of the bridging payment scheme to complement the NNPC's pipeline distribution network of petroleum products to all the depot areas nationwide, during the breakdown/maintenance of local refineries and/or pipeline breaks/vandalism.

3.5 Regulatory governance in the petroleum industry sector

The petroleum industry is probably the largest of all the industries, not just in terms of size, but also in terms of its impact on the industrial economies of the world and the political interest that it arouses (Norton and Rowe, 1978). According to Steven (2008), countries around the world have established a number of regulations, which serve as the main instrument for, and guiding principles of, the distribution of natural

resources for the benefit of all. Nevertheless, it is evident that, over the years, the regulatory governance of the sector (oil and gas) has become problematic, particularly in emerging economies (Steven, 2008; McPherson, 2003). Hossain, (2003) and Khan (1994) argue that there are many challenges affecting the governance of the sector, including poor regulations, poor accountability and transparency as well as a lack of expertise among the regulators in relation to good regulatory governance practice.

The downstream petroleum sector is usually under the control of regulatory agencies. This sector is faced with numerous challenges, especially in developing countries, ranging from inadequate refining capacity and lack of price stability to poor distribution and transportation systems (McPherson, 2003). Political interference is one of the major challenges hindering the governance of the oil sector (Lahn, 2007; Ross, 2003). In many countries, government officials have used petroleum resources as a tool to gain political and financial control. McPherson (2003) argues that, if a government moves its control to the downstream petroleum sector, the public, elections and other elements of public interest definitely become the subject of control, using petroleum pricing regulations as mechanisms. In this regard, petroleum pricing and subsidies could be used to gain political advantage.[4]

Regulatory governance issues also arise in the downstream petroleum sector because of operational management challenges (Rotimi and Abdul-Azeez, 2013). To manage the sector effectively and efficiently, the operational management system has to be in place and in harmony with the good regulatory governance practice (McPherson, 2003). When ineffectiveness and inefficiency persist, poor regulatory governance practice is the result and hence regulatory failure (Soreide, 2011). Indeed, inefficiency in the downstream petroleum sector has become an issue of concern, especially in developing and emerging economies (Clarke and Monk, 2010). These inadequacies could also be due to interference in managerial and technical issues, as well as the result of weak regulations (Jaidah, 1980). Al-Mazeedi (1992) observes that inappropriateness in the recruitment of regulatory agency employees has a

[4] Petroleum wealth can be used to secure financial, political, or military support and direct state control over the oil and gas sector to enhance the government's standing and bargaining position (Tordo et al., 2011:23).

negative effect on the governance of the sector. Recruitment within the sector is usually based on tribalism, or religious or family affiliation, rather than on competency and proven performance (Al-Mazeedi, 1992). As a consequence of inefficiencies in recruitment, the sector becomes ineffective and this results in badly managed regulations (Stevens, 2004). Developing countries are believed to have very poor accountability and transparency mechanisms, which contribute to the poor management of public resources (Reed, 2002). As a result, many nations have been subsidising petroleum products in order to stabilise the price of petroleum products (World Bank, 2000). However, it would appear that petroleum subsidies are politically motivated (Sunusi, 2012). Hanson et al. (1993) argue that the management process of petroleum subsidies consists of irregularities, ineffectiveness and inefficiencies and this has allowed the government to squander public treasure.

The pricing of petroleum products has become a major issue in developing counties.[5] A survey conducted by Baig et al. (2007: p. 8) discovered that:

> *Domestic petroleum product prices can be set by the market or by the government, on either an ad hoc basis or according to a formula. In the countries surveyed, there is evidence that ad hoc regimes, especially where automatic price formulas were suspended, are prone to prices that imply subsidization. Prices were found to be liberalized in 15 out of 44 countries for which information was available. However, while there were no explicit regulations affecting prices in these countries, governments may, nonetheless, have been able to influence them through moral suasion, particularly in countries where there was a large state enterprise (e.g., Bolivia and the Republic of Congo).*

According to Okafor (2006), when the price of petroleum products is not regulated by the government it reacts in the longer term to supply and demand, like other products, and in the shorter term to the perceptions of supply and demand. The main petroleum products derived from crude oil refining are co-produced and their prices may, and do, fluctuate widely relative to each other[6] (Makwe, 2006). However, there

[5] The large increase in international fuel prices during the period 2003–06 proved to be particularly challenging for developing and emerging market economies, where governments have significant influence over domestic fuel prices and social safety nets tend to be poorly developed. See Domestic Petroleum Product Prices and Subsidies: Recent Developments and Reform Strategies, Taimur Baig, Amine Mati, David Coady and Joseph Ntamatungiro (2007).

[6] A Critique of the Nigeria's Petroleum Products Pricing Regulatory Agency (PPPRA) Pricing Template and Cost Recovery Analysis by I.E. Makwe (2006) This fluctuation can also be explained

are no enforced rules and regulations to prevent such price fluctuations (Makwe, 2006). Price fluctuation could be caused by variations in price between the lighter products, (which usually attract higher prices) and the heavier products (attracting a lower premium). Similarly, the prices of petroleum products can be affected by taxes, especially in most European countries (Manby, 1999).

With regard to the products' specifications, the sellers and buyers have to agree on the quality of the products (Baig et al., 2007). Therefore, each particular product has to meet a specific use, climate, environmental regulation, price or a combination of these factors. The products have to possess the qualities according to the customer needs and the regulatory authority within the country of its use (Makwe, 2006). The products must be tested, usually through methods recognised by independent bodies such as the Institute of Petroleum (IP) or the American Society for Testing Methods (ASTM) (DPR, 2005). However, the buyers or sellers can use their own methods to test the products; this may be of little importance as long as it is accepted by the other party and it meets the required regulatory standard of the countries (Makwe, 2006). Knowledge of the different specifications and properties of petroleum products are required, particularly for a net importer.

3.5.1 Regulatory governance issues in Nigeria's downstream petroleum sector

Although Nigeria's downstream oil sector plays a significant role in the country's economy, it is confronted with major regulatory governance challenges. As mentioned above, Nigeria has an installed refining capacity of 445,000 bpd, but only a maximum of about 240,000 bpd has been processed for domestic consumption since 1990 (NNPC, 2011). The responsibility for the pricing of petroleum products moved from the market to the minister's office. In 1992, a litre of petrol (PMS) cost just 70 kobo and the price continued to increase. In 1994, the price of PMS rose to N11 per litre (PPPRA, 2012 and Okafor, 2006).). This increased to N20 in 1999, N22 in 2000, N26 in 2002, N39.50 in 2003, and N49 in 2004 and N65 in 2007. Currently,

by the volatility in crude oil prices on the international market because refineries will not continue to operate long on negative margins, and competition will set ceiling to high margins. In the relationship between crude oil and products prices, it is perhaps worth noting that crude oil prices reflect product prices as supply and demand act in the first instance on products.

the price of PMS per litre is N97, as determined by the regulatory agencies (PPPRA, 2012).

Despite huge investment, the domestic refineries failed to produce at their expected capacities within Nigeria (Sunusi, 2012). As demand increased due to the rapid increase in the population, the government has been unable to build any new refineries, depots or pipeline networks for over twenty-five years now. Consequently Nigeria is importing the refined product at an import parity rate determined by the international oil market (Rotimi and Abdul-Azeez, 2013; Sunusi, 2012; Nuhu, 2008; Okafor, 2006). Hundreds of millions of dollars were spent on TAM between 1998 and 2006 and yet there have been no sustainable improvements in the output of the refineries (Mmadu and Akan, 2013; Adenikinju, 1996). To be productive, the refineries now require about $400 million of investment for modernisation and refitting (Daily Trust, 2012). Olusegun (2008: 9) observed that:

> *The contradiction is more glaring now with the recent rise in crude oil prices at the global markets, which meant more external earnings for Nigeria, but also increased the expense burden on imported refined petroleum products! It is such contradictions that make the Nigeria's economy appear strange at times, as policies seem to ignore what appears obvious to do. As such, policies designed to address the deficiencies and defects in the structure end up being poorly articulated and/or implemented because of regional, political or rent-seeking selfish interests. Obviously, it is the same rent-seekers that continually sabotage the reinvigoration of the domestic refineries, making Nigeria to depend on importation of refined products to meet the domestic need.*

However, there are a number of reasons why the refineries are left to under-perform. Firstly, it creates an opportunity to sell the allocated, but unprocessed crude to the NNPC and, secondly, it provides an opening to import refined products to make up the shortfall in domestic production (Olusegun, 2008; Nuhu-Koko, 2008; Okafor, 2006). This situation presents multi-million dollar arbitrage, patronage and pay-off opportunities for those in power (Sunusi, 2012). For instance in 2010, the refineries received a total of 33,633,907 barrels of dry crude oil and condensate and processed a little more into various petroleum products (Rotimi and Abdul-Azeez; 2013; Olusegun, 2008). The combined average refining capacity in 2010 was less than 22%, with Warri having the highest capacity utilisation at 43%, Kaduna 20% and

Port Harcourt 9% (Vangard, 2012). The highest capacity utilisation ever achieved was 64% in 1990, compared with 80–95% globally (Okafor, 2006).

Therefore, out of the 445,000 bpd allocated to the NNPC for domestic refining, around 162 million barrels in 2010, about 128 million were allocated to privileged parties to sell on the open market (Sunusi, 2012). In 2000, the World Bank discovered that privileged parties pocketed about $75 million as middlemen, marketing the worldwide most needed, light, sweet crude oil (El-Rufai, 2011; Iwayemi; 2008; Makwe, 2006). Another regulatory governance challenge is the paperwork required to be completed by the oil marketers and the NNPC and remitted to the PPPRA and the government to claim 'the fuel subsidy', or the price differential between the imported product prices and the approved selling prices for PMS and kerosene (Sunusi, 2012; El-Rufai, 2011; Iwayemi; 2008). Likewise, there is also an issue with the paperwork required for the reimbursement of bridging costs, the cost payable to transporters to freight fuel from Atlas Cove, Mosimi and the various depots to every part of the country to ensure that elusive price equalisation (PEF, 2012). The Nigerian citizen directly, or indirectly, bears the burden of all these inconsequential inefficiencies and a number of 'fat cats' are paid for doing nothing, despite the paperwork and audits showing otherwise (Makwe; 2006).

In 2010, the total production by the refineries was 4,404,360 tons of various petroleum products (NNPC, 2012). The PPMC distributed 6,353,517,990,000 litres of PMS, 668,548,000 of kerosene (HHK), 205,546,720 of aviation fuel (ATK), 879,367,550 of diesel (AGO), and 272,699,100 litres of fuel oil (PPPRA, 2012). In 2010, Nigeria imported 5,031,288 tons of PMS, compared with the insignificant combined 747,776 tons produced by the four refineries. In effect, almost 87% of gasoline was imported in 2011 (El-Rufai, 2011).

The NNPC, through its PPMC subsidiary, produced 4,508,434 tons of petroleum products from the refineries and received 6,639,752 tons of imported PMS and HHK for distribution (NNPC, 2012). The total quantity of PMS sold in 2010 by the PPMC was 9,090,469,690. It has been estimated that the NNPC spent $5.5 billion in 2010 to import refined products (Sunusi, 2012). PPMC also sold a total of 13.75 billion litres of various grades of petroleum products through depots, bunkers and the coastal lifting of about 38 million litres of various products daily (This day, 2012). If the

four refineries could operate at or slightly above the template capacity, then the PPMC would not need to import more than the modest shortfall and strategic reserve that most countries keep (Makwe, 2006).

With the continuous depreciation of the national currency, the rising market price of crude oil and the consequential escalation of refined product prices from ports Nigeria uses for imports, the shifting levels of imported fuel pricing has led to the contentious issue of fuel subsidies (Sunusi, 2012; El-Rufai, 2011). The unpopular policy of the regulatory agencies of withdrawing the fuel subsidy by deregulating the pricing of PMS resulted in a serious problem, whereby the country was shut down for almost a week as a consequence of a nationwide strike and street protests all over the country (Iwayemi, 2008). According to the Petroleum Task Force (2012) there is a significant amount of waste and corruption surrounding the current subsidy system and the government lacks the political will and legitimacy to confront the major oil marketers taking advantage of the subsidy. The Petroleum Task Force committee further alleged that some oil marketers financed the election of the incumbent president; thus it is easier to eliminate the inefficiencies through deregulation. Another major regulatory governance challenge is cross-border smuggling, an ongoing problem, and there are frequent reports of large-scale corruption in the distribution and marketing chain (El-Rufai, 2012).

Furthermore, a committee led by Nuhu Ribadu (2012) asserts that it is ironic that Nigeria, the largest producer of oil in West Africa and one of the biggest exporters of crude oil and now the largest importer of refined petroleum products, currently depends on smaller countries for its survival.

3.5.2 The petroleum subsidy debate in Nigeria

The petroleum subsidy is the difference that exists between the pump price a consumer pays for petroleum products and the actual total cost of producing or importing the products. For example, in Nigeria in 2010, the pump price of petroleum products was pegged at N65 per litre, although the actual cost of supplying it was about N138 per litre at a crude oil price of $110 per barrel (PPPRA, 2012; Okpanachi; 2011). According to Okafor (2007) a fuel subsidy is a mechanism employed by nations to stabilise the effect of local crude prices on its citizens.

Annually, around $300bn is spent on energy subsidies worldwide (Okonjo-Iweala and Osafo-Kwaako, 2007; Okafor, 2007). Governments set aside money to protect their citizens from the price volatility of the international energy market.

In Nigeria, the amount of money set aside for the payment of fuel subsidies are usually included in the annual budget in order to shield the general public from paying the true price of petroleum products in the international oil market (Onyishi, et al., 2012; PPPRA, 2012). In 2006, the government introduced the Petroleum Support Fund (PSF) and made a decision to include it in the budget. According to the policy, the PSF is a pool of funds derived from the national budget, to be used for the stabilisation of the domestic prices of petroleum products so that any volatility in international crude and products prices does not altogether translate into wild variation of prices at the pump (PPPRA, 2012).

According to the policy, the PSF shall be financed from two sources, namely:

1. All tiers of government – federal, states and local.
2. Accruals realised during the period of over-recovery (over-recovery here refers to the period when the PPPRA's recommended price is higher than the market determined price).

The policy also provides the following guidelines:

1. An importer should be an oil marketing company registered with the Corporate Affairs Commission (CAC).
2. A claimant/beneficiary is expected to possess the following:
    a. proof of ownership of storage facilities, with a minimum storage capacity of 5,000 metric tonnes for the particular product, as well as dispensing facilities (retail outlet network)
    b. a DPR import permit
    c. the ability to finance a minimum cargo size of 5000 mt of products under the Fund.
3. The claimant/beneficiary should notify the PPPRA within a minimum of 45 days ahead of the cargo's arrival in the country and furnish the Agency with

the relevant documents, including copies of invoices, bills of lading, sources of funding and the expected date of arrival of documentation/verification.

4. The products are expected to arrive into the country on schedule and should conform to the products' specification based on the requirements set out by the DPR / Standards Organization of Nigeria (SON).
5. All approvals for importation are valid for a minimum of three months based on the current DPR guidelines.
6. Deliveries should be made to the invoiced location(s) and approved facilities by the DPR.

In 2006, the government appropriated N150 billion to finance the fuel subsidy (Okafor, 2006; Oseni; 2013). However, the import parity principle of deregulation will be upheld in the pricing of products so that the spirit of deregulation is not totally expunged from the scheme of things (PPPRA, 2006).

Despite the PSF policy and the guidelines established by the government, the downstream sector continues to face challenges and now the government is doing everything possible to fully deregulate the sector (PPPRA, 2012). This is due to the fact that demands for fuel and other petroleum products have increased, which has caused huge budget deficits as Nigeria's governments are forced to import refined oil products at high prices before selling them on at a loss to consumers in order to protect the poor (Ross, 2003; Tanko; 2011). According to the Nigerian government, the fuel subsidy is unnecessary and undermines expenditure in other areas, notably education, health and other infrastructures (Mmadu and Akan, 2013; Adenikinju, 1996). Oyovbaire (2007) further observes that regulated markets with subsidised prices provide an opportunity for dishonest oil marketers to take advantage of the price discrepancy between countries. The IMF and Nigeria's government further argue that it is the rich people who benefit primarily from the fuel subsidy, whereas poor citizens hardly benefit (Sunusi, 2012). For these reasons there have been many attempts made by various administrations to deregulate the downstream petroleum sector (Rotimi and Abdul-Azeez, 2013).

The deregulation of the downstream petroleum sector involves not only the removal of government control over petroleum products prices, but also the removal of restrictions on the establishment and operations including refining, jetties and depots,

while at the same time allowing private sector players to become engaged in the importation and exportation of petroleum products and allowing market forces to prevail (Nwachukwu and Edikpa, 2009; Okafor, 2006). The attempt by the subsequent government to remove the fuel subsidy attracted much criticism from the general public and caused civil unrest. The citizens regard fuel subsidies as one of the few benefits they are able to enjoy since consecutive corrupt and incompetent governments have failed to provide basic social amenities, for example, health care, roads, schools, potable drinking water (Sunusi, 2012; Nuhu-Koko, 2008). In spite of the huge inflow of oil revenues into the government treasury over the past forty years, no meaningful development is evident (Nuhu-Koko, 2008; Okafor, 2006).

3.6 Conclusion

This chapter has reviewed the development and structure of Nigeria's downstream petroleum sector. Similarly, Nigeria's downstream regulatory agencies were identified; their regulatory functions reviewed and regulatory governance in the petroleum industry and the debate surrounding the fuel subsidy was examined. Finally, the chapter discussed the regulatory governance issues of Nigeria's downstream petroleum sector. It is the conclusion of this chapter that the issues raised in the literature regarding the regulatory governance practice in Nigeria's downstream petroleum sector are associated with poor regulatory expertise, poor accountability and transparency practice, the main prerequisites of good regulatory governance practice.

CHAPTER FOUR

Public Interest Theory as a theoretical framework

4.1 Introduction

The previous chapter reviewed the literature relating to Nigeria's downstream petroleum sector and its regulations. Abdel-Khalik and Ajinkya (1979) argue that a relevant theoretical structure needs to be developed in every piece of empirical research. Thus, the main aim of this chapter is to discuss the theoretical framework that underpins the current study.

The rest of the chapter is set out as follows: Section 4.2 reviews the concept of the Public Interest Theory of regulation. Section 4.3 examines the Public Interest Theory within the context of the public's perception of good regulatory governance. Section 4.3 justifies the reasons for the application of the Public Interest Theory in this research. Finally, Section 4.4 discusses other regulatory governance theories that could have been applied in this study.

4.2 The concept of the Public Interest Theory

Public interest theory was first developed by Arthur Cecil Pigou in 1932 (Barr, 1999). According to this theory, regulations are designed in response to the public demand for the corrections of inefficiencies or inequitable market practices (Barr, 1999). Aranson (1990) argued that initially regulations were assumed to benefit the whole society rather than particular vested interests. The Public Interest Theory proposal is that government regulations only exist to promote and protect the welfare and the interests of the general public, rather than the interests of powerful minority or private entities (Becker, 1986). Nigeria's downstream regulatory agencies were regarded as public authorities and established to design regulations for the best interest of the country and the general public. Therefore, the Public Interest Theory is adopted in this study, which seeks to investigate whether the regulations formulated by Nigeria's downstream regulatory agencies adequately benefit the public at large and are fit for purpose.

Aranson (1993) pointed out that government interference and economic controls are as old as the existence of humans. Similarly, the theory of public interest is as old as

the political beliefs of government intervention and control (Becker, 1986). Indeed, the concept of public interest appears in the works of political philosophers such as Rousseau, Plato, Aristotle and Hobbes among others (Held, 1970). Consequently, government interference and public interest co-exist in political, philosophical, legal and management areas (Aranson, 1990).

According to Baron (1988), the Public Interest Theory can be regarded as the best way of allocating scarce resources to individuals and for collective goods. In developed nations the distribution of scarce resources is determined by market forces – demand and supply mechanisms (Bator, 1958). It is believed that under certain circumstances the allocation of resource by means of the market mechanism is the most efficient (Arrow 1985). However, as these conditions are frequently in practice not adhered to, the allocation of resources is not optimised and this results in an increased demand for methods to improve allocation (Bator, 1958). According to Arrow (1970), the only method that can achieve the effective distribution of scarce resources is government regulation. The Public Interest Theory argues that government regulations are mechanisms used to overcome the difficulty of imperfect competition, unbalanced market operations, the absence of markets and unattractive market results (Baumol, 1977).

Good regulatory governance improves the allocation of limited resources by maintaining, facilitating and imitating market operations (Braeutigam et al., 1989). Thus, regulations strive to maintain market operations through monitoring (Baumol, 1977). Moreover, imperfect competition can result from specific characteristics of the production process in relation to the magnitude of the market demand (Braeutigam et al., 1989). At a given level of demand, average total costs could be minimised if production were to be confined to one company (Baumol, 2003). In this regard, a monopoly may exist naturally. According to Barro (1991), if several companies produce the same total quantity of goods, the unit costs of production rise. For instance, a situation may arise when the production process requires a great deal of capital investment (Bator, 1958). Similarly, fixed costs can continue to decline as production increases. This is particularly true in the case where modest marginal costs hardly rise, but average total costs may persistently fall (Baumol, 1985).

Regulation can overcome market problems. Government intervention enhances the exchange of goods and factors of production in markets assume the definition, allocation and assertion of individual property rights and freedom to contract (Quintyn and Taylor, 2003). Peltzman et al., (1989) observed that regulations can guarantee property rights and any necessary enforcement of contract compliance can be more efficiently organised collectively than individually. Furthermore, market transactions costs can be reduced by property and contract law (Bachmann and Afrika, 2011). Similarly, the freedom of contract can also be applied to achieve cooperation among parties opposed to market operation. A lack of, or poor regulations can give rise to prices deviating from the marginal costs and an inefficient quantity of goods supplied to the market (Barro, 1991). Therefore the essence of anti-monopoly legislations (regulations) is to maintain market operation by monitoring the creation of positions of economic power, prohibiting unnecessary competition and limiting agreements or punishing the misuse thereof (Bachmann and Afrika, 2011).

Nevertheless, imperfect competition can also arise from the special characteristics of the production process, in relation to the magnitude of the demand in the market (Hantke-Domas, 2003). A monopolist striving for a maximisation of profits will set a price that deviates from the marginal costs (Jones, 1988). The natural monopolies are then either put under the control of the state, as happens in many European countries, or are highly regulated, as for example in the United States (Jones, 1988). Regulation consists of barring entry to the market and the enforcement of price rules that promote efficient allocation (Braeutigam, 1989). In this way, the market results of perfect competition are simulated. Examples of companies assumed to have the characteristics of a natural monopoly are railways, electricity distribution, gas and oil pipelines, telecommunication networks and drinking water distributors (Braeutigam, 1989).

According to Held (1970), regulatory bodies are considered to represent the interest of the society in which it operates, rather than the private interests of the regulators. Stigler (1971) argues that the Public Interest Theory assumes that economic markets are extremely fragile and apt to operate very inefficiently (or inequitably) if left alone. Therefore, government agencies are presumed to be a neutral arbiter. The

public interest view holds that governments regulate the private sector to facilitate the efficient functioning of firms by ameliorating market failures, for the benefit of the broader civil society (Braeutigam, 1989; Stigler, 1971; Held, 1970).

According to Baron (1988), the assumption behind government regulations is that they exist to protect the public interest against private interests. However, this responsibility is sometimes unattainable, as private interests use governmental regulations for rent seeking to protect their business against market competition (Stigler, 1971). One possibility is that regulations have been designed to effectively protect the public interest in the form of third party interests against the adverse consequences of private activity; on the other hand, the regulators may have given in to private interests and made regulatory policy a shield, protecting them from competition and consumers (Schwert, 1981). Stiglitz (1998) observed that regulatory neutrality is difficult to achieve because the regulatory agency could be captured by regulated interests. The consequences are that the agency operates in a way that is systematically unfair to the advantage of private interests; again the presumption is that they represent private business. Similarly, there is a possibility that regulatory governance is transformed into the guardian of the public interest. In this regard, legislators have mandated the agencies to ensure that private interests do not overtake public interest (Spiller, 1990).

The problem of market failure, together with the common need for principles of public disclosure by business, make regulation critical if the public interest is to be protected (Stiglitz, 1998). In this regard, regulation results from the need to protect the public from the negative impacts of such market failures and other harmful business behaviours.

4.3 The assumption of the Public Interest Theory within the context of public perception of regulatory governance

The Public Interest Theory of regulation is based on two perceptions: The Unbalanced Market Operation and the Information Problem.

4.3.1. The unbalanced market operation

According to the Public Interest Theory, effective regulations are capable of creating market stability and attaining market equilibrium (Ogus, 1994). The imbalance in market operations occurs separately at both market level and on a macro level (Christensen and Lægreid, 2007). When the market is not regulated it is assumed that destructive or unnecessary competition might arise, often as a result of long-term overcapacity (Ogus, 1994). This situation could negatively affect the market equilibrium and it would be difficult to re-establish because the participants are in a dilemma (Kaufmann, 2002). Market congestion (overcapacity) may also arise if the production capacity is adjusted to the demand during peak moments or periods (Kahn, 1988). Unnecessary market competition also affects the price level, which sinks below the average total costs, and leads the price level to fluctuate more widely (Kahn, 1988). This contributes to inefficiency and insecurity in decision-making on the part of both producers and consumers (Ogus, 1994). In addition, excessive competition can be detrimental to safety and reliability when consumers are not in a position to assess the quality of goods (Kahn, 1988). Therefore, government intervention is necessary in order to protect public interest (Christensen and Lægreid, 2007).

4.3.2 The information problem

The Public Interest Theory argues that competitive and/or perfect markets may not exist for a number of reasons, most particularly for some goods for which the willingness to pay exceeds the production costs, for example utilities (Hirshleifer and Riley, 1979; Bergara et el., 1998). Many markets, particularly those linked to external effects and public goods, could not exist in the face of information problems and high transaction costs (Bergara at el., 1998). Thus, regulations may encourage more efficient resource allocation that would benefit the general public at large (Huntington, 1952). The Public Interest Theory further argues that consumers lack the capacity and ability to monitor qualities and quantities and to determine the actual price of goods and services, as a result of hidden information, or because of an asymmetric distribution of information (Hirshleifer and Riley, 1979). When it becomes impossible to ascertain the quality of goods or services in advance, buyers may be prepared to pay an average price, equivalent with the expected quality of the

products. On the other hand, suppliers of high quality goods may not be ready to offer the products at that asking price and might pull out from the market (Den Hertog, 2010).

Asymmetric distribution of information can also give rise to moral hazards in the enforcement of contracts, whereby parties misuse their information advantage (Bergh and Faure, 1991). Due to the nature of the goods' credibility, it is sometimes difficult to precisely set minimum quality standards where the risks of moral hazard are high (Den Hertog, 2012). In such cases, regulation can combat the problems of adverse selection and moral hazard (Bergh and Faure, 1991; Den Hertog, 2010).

Market failure may also occur as a consequence of investigation costs incurred by consumers when appropriate information is not inaccessible (Barzel, 1982). Finally, under certain circumstances, transaction costs can be kept to a minimum by the rules relating to misleading information (Beales et al., 1981; Shaxson, 2009). Indeed, in many nations, social legislation is established as a response to the information problems, and rules are introduced to strike a balance in the market system (Swaroop and Rajkumar, 2002).Therefore, it is imperative for regulatory agencies to act in the interest of the general public.

4.3.3 Criticisms of the Public Interest Theory of regulation

The Public Interest Theory of regulation, regarded as a possible solution to market failures, has been criticised by various parties in the literature. The free market theory argues that regulation is unnecessary because it hinders efficient market operation (Ribstein, 2002). Zerbe and Urban (1988) postulate that an optimal level of information is disclosed to the buyers or suppliers (general public) through the interplay of the price mechanisms and that, consequently, government intervention is unnecessary. Zerbe and McCurdy (2010) opine that if the transaction costs, such as the inability of the monopolist to price discriminate or avoid arbitrage, or the inability of the consumers to organise and effectively bargain, are taken into consideration there will be an efficient market result. Therefore, the conclusion of the Public Interest Theory that externalities, monopoly power and the so-called market failure give rise to inefficiency in the allocation of resources can only be understood if the transaction costs involved are missing (Cowhey and Aronson, 1993). Indeed,

the allocation of resources can appear to be very efficient when transaction costs are included (Toumanoff, 1984). Dahlman (1979) believes that the market mechanism itself is often able to encourage stronger institutions to compensate for any inefficiency in the market. Thus the argument of market failure as advocated by the Public Interest Theory of regulation is unnecessary and inconsistent (Clark and Monk, 2009; Dunne and Wheeler, 2004).

Another criticism is that the Public Interest Theory fails to adequately provide a detailed explanation on how and why regulation is reasonably the best transaction cost minimising institution in the efficient allocation of resources for particular goods and services (Zerbe, 2010). Indeed, the very concept of market failures does not contribute to that task (Demsetz, 1976). Baumol (2003), states that a more general criticism of the theory of market failure is its limited explanatory power. An economist generally requires only ten minutes to rationalise government intervention by constructing some form of market failure (Peltzman, 1989).

Furthermore, the Public Interest Theory assumes that government regulation is effective and can be implemented without great cost (Posner, 1971). Indeed, the theory assumes that transaction and information costs, which bring about market failure, are absent in the case of government regulation (Bergh and Faure, 1991). Ng (1985) criticised the assumption that partial allocation does not make the economy as a whole more efficient if inevitable inefficiencies persist elsewhere in the economy. The inevitable inefficiencies, such as domination in product markets or taxation, result in an inequitable allocation in the economy (Ng, 1985). These distortions also mean that the allocation in factor markets is sub-optimal. Moreover, regulatory agencies can easily be subjected to regulatory capture; this is because of the inequality in the distribution of the agency benefits (Wittman, 1995). Posner (1971) points out that government regulation sets an inefficient price structure in which, on the whole, only certain producer groups receive cross-subsidies. A further criticism is that many consumers are deprived of market benefits because of government regulation (Baumol and Ordover, 1985; Winston, 1998; Majone, 1997).

According to Stingler (1971) and Posner (1974), government regulation serves private interest and not public interest. The neutrality of regulators frequently breaks down, to the detriment of public interest (Posner, 1974). According to Meier (1991),

regulators cannot protect public interest, due to their bureaucratic ineptitude, lack of skills and resources and the inevitable complexity of technical issues. Regulatory agencies may become victims of incompetence through the inactivity and disinterest of regulators (Majone, 1991).

Despite these criticisms it has been agreed that is impossible to refute the public interest theories of regulation, especially in regulatory governance studies (OECD, 2000). Further, Wilson (1974) states that whatever the reason, political or economic, regulation is not an inevitable event.

4.4 The application of Public Interest Theory to Nigeria's downstream petroleum sector

The Public Interest Theory of Regulation is one of a number of general theories that can be applied to the study of regulatory governance. In this section, the rationale for adopting Public Interest Theory as a theoretical framework for regulatory governance in Nigeria's downstream petroleum sector is discussed.

Firstly, as a democratic nation, Nigeria is expected to promote and practice good governance in all aspects; by ensuring the rule of law, improving efficiency and accountability, and tackling corruption. These requirements are essential elements of regulatory governance; with these in place, a country should be able to prosper for the benefit of the general public (World Bank, 2007). Thus the application of Public Interest Theory within this study will contribute to ascertaining whether good regulatory governance is being practiced in the downstream petroleum sector for the interest of the general public.

Secondly, Public Interest Theory argues that the regulatory authorities were established to safeguard citizens' welfare through the efficient allocation of resources (Majone, 1991). Indeed, the downstream regulatory agencies of Nigeria (DPR, the PPPRA and the PEF) were established for the purpose of ensuring the availability of petroleum products at affordable prices around the country (NNPC, 2012). Thus it is logical to apply the Public Interest Theory of Regulation in order to ascertain whether the agencies are carrying out their duties in the interests of the public.

Thirdly, Public Interest Theory is adopted because individuals in Nigeria are unable to monitor the quality or quantity of certain products (e.g. petroleum products) because of the cost and the lack of knowledge required to do so. Therefore, regulators should have the capacity to monitor companies in order to protect the general public, or consumers, from the possible problems stemming from this lack of information. Similarly, Nigeria's downstream regulatory agencies are expected to protect the interests of the Nigerian people from unexpected harmful business behaviours.

Fourthly, Public Interest Theory assumes that regulators are neutral arbitrators (Posner, 1974). Nigeria's downstream regulatory agencies are created to guarantee an environment that enables business participation and strikes a balance between the regulated entities and consumers, for the benefit of broader society. This assumption also informed the adoption of the Public Interest Theory of regulation for this study.

Fifthly, the government and the regulatory agencies of Nigeria's downstream petroleum sector usually argue that all regulatory decisions in the sector are in the public interest. Hence, the adoption of this theory is appropriate for this study.

Sixthly, Public Interest Theory argues that for regulatory agencies to protect and secure the welfare of the general public, the regulators must be independent from external interference (Masciandaro et al., 2008). The agencies should have adequate financial autonomy and the necessary skills in the area of regulatory governance (Maxwell et al., 2000). Therefore, Nigeria's downstream regulatory agencies are expected to have the autonomy and the expertise to be able to provide welfare and protect the public interest. Finally, another reason for the adoption of the Public Interest Theory in this study is that the concept argues that to ensure that regulations are in the public's interest, the regulatory agencies should provide accountability and transparency for their actions and inactions (Wilson, 1974). On this note, Nigeria's downstream petroleum regulators are expected to ensure proper accountability and transparency in practice as the main pre-requisites of good regulatory governance. Furthermore, the Nigerian government sees the downstream petroleum sector as a means of generating economic activity across all sectors, and it was on this basis that the cost of petroleum products has been subsidised for the benefit of the broader

society. The fact that the Nigerian downstream sector is important to the general public is consistent with application of public interest theory.

The reasons enumerated above justify the rationale for adopting Public Interest Theory of Regulation to underpin this study. Figure 4.1 illustrates the relationship between Public Interest Theory and regulatory governance in Nigeria's downstream petroleum sector.

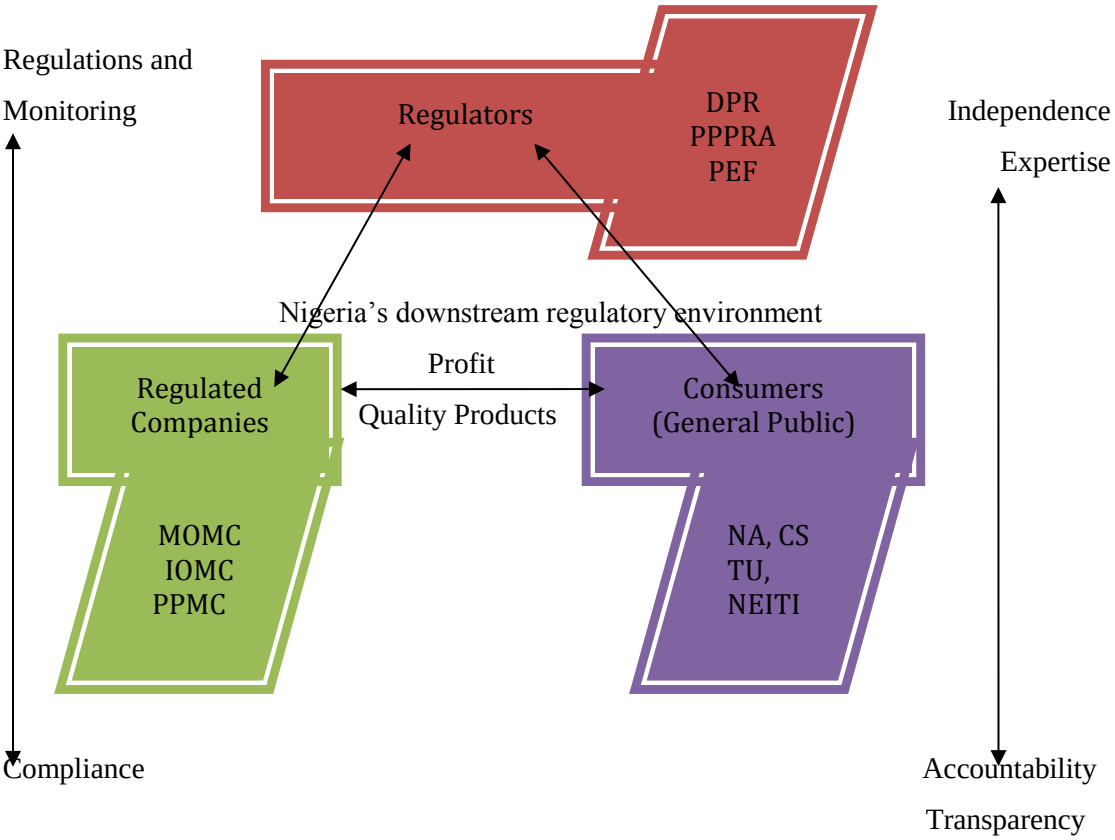


Figure 4.1: Public Interest Theory and regulatory governance relationship in Nigeria's downstream petroleum sector

Figure 4.1 shows that the general public (NA, CS, TU and NEITI) expect the regulators (the DPR, PPPRA and PEF) to have the required expertise and autonomy (independence). Similarly, the general public expect the regulators to provide accountability and transparency for their actions. On the other hand, regulators should design regulations and monitor the activities of regulated companies (the MOMC, IOMC and PPMC) and the regulated companies need to comply with regulations and pay revenue to the regulators. The general public expects to receive quality products or services from the regulated companies. Moreover, the general

public (consumers) have to pay for the services they obtain from the regulated companies; therefore, the adoption of the Public Interest Theory perfectly underpins the aim of this study, which is to investigate whether the regulatory governance practice of Nigeria's downstream petroleum sector is fit for purpose.

4.5 Other theories that could have been applied to the study.

Two other theories that could be applied in a study of regulatory governance are Regulatory Capture Theory and the Agency Theory.

1- Capture Theory of regulation

McMahon (2002, p. 1) defines regulatory Capture Theory as 'meant behaviours, active and passive, by responsible authorities, which behaviour acts to protect the same illegal, unethical, immoral or anti-public interest practices that those authorities are charged of policing'. Leading industry players are granted unjustifiable special consideration from the state (McChesney and Shughart, 1995).

The regulatory Capture Theory applies when the regulatory agencies, established to act in the public's interest, instead move away from the commercial or special concerns of interest groups that dominate the industry or sector it is charged with regulating (Huntington, 1952). According to Levine and Forrence (1990), regulatory capture happens as a result of government or regulatory agency failure, which encourages regulated firms to create harmful externalities. Laffont and Tirole (1991) add that regulatory capture occurs because groups or individuals with significant interest, influence the outcome of regulatory decisions or policies. It is possible that these powerful interests focus on their resources and energies in order to achieve the policy outcome they desire (Levi-Faur and Jordana, 2006).

In the context of Nigeria's downstream petroleum sector, the regulatory agencies could be captured by regulated companies or powerful interests. Instead of the regulatory agencies discharging their responsibilities in the interest of the general public, they may end up serving the interests of regulated companies. Thus, the regulatory Capture Theory might have been appropriately employed in the study of regulatory governance. However, the main reason for not adopting this theory here is because the aim of this study is wider than investigatingwhether Nigeria's

downstream regulatory agencies serves a special interest group and the focus is on determiningif the regulatory governance practice in the sector is fit for purpose.

2- Agency Theory

The concept of Agency Theory is concerned with the issues surrounding the delegation of responsibility between agent and principal. This is one of the major theories used in social science research (Dunne, 2003). Agency Theory is concerned with offering a solution to the problems that arise in the principal–agency relationship (Dunne, 2003). Eisenhardt (1989) believes that these problems occur as a result of (a) a conflict of interest between the principal and the agent, and (b) the difficulty, or cost implication, for the principal to monitor the activities of the agent. Indeed, the problem here is for the principal to somehow have reassurance that the agent is acting in the principal's interest rather than for personal gain. The main features of an Agency Theory model are presented in table 4.1.

Table 4.1: Main features of Agency Theory

Key idea	Principal-agent relationship should reflect efficient organisation of information and risk bearing costs
Unit of analysis	Contract between principal and agent
Human assumptions	Self-interest, bounded rationality, risk aversion
Organisational assumptions	Partial goal conflict among participants, efficiency as the effectiveness criteria, information asymmetry between principal and agent
Information assumption	Information as a purchasable commodity
Contracting problems	Agency (moral hazard and adverse selection)
Problem domain	Relationship in which the principal and agent have partly differing goals and risk preferences (e.g. compensation, regulation, leadership, impression, management, whistle-blowing, vertical integration, transfer pricing)

Source: Kyari, 2013, p. 120.

In the context of Nigeria's downstream regulatory agencies, the legislature is the principal and the regulatory agencies are the agents. The legislature represents the general public and delegates the responsibility to the regulatory agencies to regulate the downstream activities. However, the regulatory agencies could possibly pursue

their own interests instead of the interests of the principal. When the regulatory agencies start acting in their own interest, the legislature may find it difficult to monitor their activities and adverse consequences might occur.

Although, Agency Theory is suitable for application to the downstream petroleum sector, it was not adopted in this research because the aim of this empirical study is not to investigate the relationship between the legislature (principal) and regulatory agencies (agent). This thesis is concerned with general regulatory governance practice in downstream petroleum sector and as such places less emphasis on the relationship that exists between the legislature and the regulatory agencies. As stated in Chapter 1, the aim of this study is to empirically investigate the state of the regulatory governance practice of Nigeria's downstream regulatory agencies to assess whether it is fit for purpose. Consequently, the scope of this thesis is broader than the arguments associated with the Agency Theory model, as this study explores the entire regulatory governance practice in Nigeria's downstream petroleum sector.

4.6 Conclusion

This chapter has reviewed literature on the concept of the Public Interest Theory of regulation, discussed the assumptions and public perceptions of the theory, and examined its applicability of the theory in the study of regulatory governance of Nigeria's downstream petroleum sector. Likewise, two other potential theories (Regulatory Capture and the Agency theories) that could be applied in this regulatory governance study and the reasons for not adopting them were also reviewed. The chapter concludes that the Public Interest Theory clearly supports this study, which aims to investigate whether the regulatory governance practice in Nigeria's downstream petroleum sector is fit for purpose.

CHAPTER FIVE

Research methodology and methods

5.1 Introduction

This chapter aims to discuss the research methodology and methods used in this study and also to specify the steps involved in achieving the research objectives. Section 5.2 examines the research philosophy and the assumptions employed in this study. Section 5.3 discusses the formulations of the research hypotheses and Section 5.4 explains and justifies the methods of data collection adopted. The methods of data analysis are discussed in Section 5.5 and the chapter is concluded in Section 5.6.

5.2 Research philosophy

This section examines the fundamental subject of research philosophy and strategy, so as to provide a basis for further discussion and analyses of the research. The topic is very broad, attracting many different opinions and debates, and could not possibly be covered in a single chapter of a thesis. However, the two key philosophical assumptions relevant to this study are discussed. These assumptions are referred to as ontology and epistemology.

According to Blaikie (2007), ontology is regarded as the science or study of being. It expresses the researchers' view on the claims or assumptions on the nature of reality, and specifically whether this is an objective reality that really exists, or just a subjective reality created in the minds of the researchers (Blaikie, 2007; Bogdan and Biklen, 1998; Barker, 1993). Hatch and Cunliffe (2006) describe ontological assumptions as how researchers perceive the world through asking questions about what exists, what it looks like, what units it consists of and how these units interact with one other. Bryman (2012) and Bryman and Cramer (2001) highlight the difficulty that arises when taking into consideration phenomena such as power or control and culture and whether they really exist or are simply illusions. This further widens the debate as to how individuals or groups determine these realities. The question is: does reality exist only through its practice (subjectivism), or does it exist separately to those who live it (objectivism)? For further discussion on this question see Grix (2002) and Bailey (1983). The proponents of subjectivism (constructivism) argue that social phenomena in the universe exist only through experience and

practice (Bell and Bryman, 2007). On the other hand, the proponents of objectivism believe that the world's social structures exist independently.

Closely related to the ontological assumptions and its consideration of what constitutes reality are the epistemological assumptions which seek the best ways of enquiring into the nature of the world, including the questions of what is knowledge and what are the sources and limits of that knowledge (Temple and Johnson,1998). Epistemology questions the research method and how knowledge can be produced and validated (Eriksson and Kovalainen, 2008). According to Blaikie (1993) epistemology as a theory or grounds of knowledge is a set of claims or assumptions about the ways in which it is possible to gain knowledge of reality, how what exists may be known, what can be known, and what criteria must be satisfied in order for it to be described as knowledge. Thorpe and Jackson (2008) view epistemology as how, and what, it is likely to be recognised and the need to reflect on the process and principles through which reliable and certifiable knowledge is produced. For Bryman (2012) and Hassard (1991) epistemology is simply described as how you can know something, how knowledge is created and what methods distinguish good quality knowledge from poor knowledge, as well as how reality should be described. Epistemology is the process and procedure for gathering knowledge to develop a theory or a model. It is evident that there are various perceptions and levels of understanding among scholars in relation to the social world and methods of gathering knowledge. It is obvious that a researcher should consider this link and the need to understand his/her position with regards to the philosophical assumption. When a researcher holds certain ontological views these could influence the epistemological choices, or the conclusions drawn. With regards to the ontological position, both subjective and objective epistemological opinions exist. According to Eriksson and Kovalainen (2008), an objective epistemological view presumes that a world exists externally, whereas subjective epistemology believes there is no possible access to the external world further than the researchers' observations and interpretations. Saunders et al. (2009) observed that some researchers argue that data collected from existing objects is less open to bias and hence more objective. Moreover, when studying social phenomena the results, to hold any authority, must be presented in a statistical rather than a narrative manner. However, this is a position that many researchers would challenge. Lindorff (2007) argued that in view

of the fact that social science research involves so many choices, the opportunity for a researcher's values and preferences to influence the process makes it difficult to ultimately achieve true objectivity. It is in view of these debates that research paradigms have emerged.

According to Denzin and Lincoln (2003), a research paradigm is an interpretive framework and a basic set of beliefs that guide an action. Collectively, these assumptions are referred to as a 'paradigm' (Lawal, 2008). According to Harmon (1970, p. 5), a paradigm is defined as 'the basic way of perceiving, thinking, valuing and doing, associated with a particular vision of reality'. A paradigm is also described as a set of rules and regulations, written or unwritten, which establishes or defines boundaries and dictates how the researcher behaves inside the boundaries (Baker, 1993; Hassard, 1991). Indeed, a paradigm is like a mental window through which the researcher views the social world, based on his or her paradigm of concepts, categories, assumptions and biases (Bailey, 2008). There are three main research paradigms in social science research. These paradigms are chosen not only for their popularity in management research but also because they effectively form the basis from which other paradigms are developed.

The first is the positivist view which believes that the most appropriate way to study social reality is to apply the methods of natural sciences. This is closely related to the ontological opinion of the objectivists. Their position originated from natural science and is characterised by testing research hypotheses adopted from existing theory (hence deductive or theory testing) by measuring social realities (Creswell, 2009; Mackenzie and Knipe, 2006). The positivist view presumes that the social world only exists objectively and externally. Furthermore, it is believed that knowledge is valid only if it is based on observations of this external reality; that universal or general laws exist; or that theoretical models can be developed that are generalisable and can explain cause and effect relationships which lend themselves to predicting outcomes. Positivism is based upon values of reason, truth and validity and there is a focus purely on facts, gathered through direct observation and experience and measured empirically using quantitative methods – surveys and experiments – and statistical analysis (Blaikie, 1993; Saunders et al., 2009; Eriksson and Kovalainen, 2008; Easterby-Smith et al., 2008). Hart (2001) relates this to the organisational context,

stating that positivists assume that what truly happens in organisations can only be discovered through categorisation and scientific measurement of the behaviour of people and systems and that language is truly representative of the reality.

The second research paradigm is interpretivism, which disagrees with the view that natural science methods cannot be used in the study of social reality because of the dynamic nature of the social world (Bryman, 2001). The advocates of interpretivism are closely linked to the views of constructivists/subjectivists. Hart (2001) describes an interpretivist as an anti-positivist. Blaikie (1993) argues that there is a fundamental difference between the subject matters of natural and social sciences. In the social world it is argued that individuals and groups make sense of situations based upon their individual experience, memories and expectations. Meaning is therefore constructed and (over time) constantly re-constructed through experience, resulting in many differing interpretations. It is these numerous thoughts and interpretations that create a social reality in which society progresses. Advocates of this paradigm, therefore, believe that it is significant to ascertain and understand the meanings and the appropriate factors that determine, influence and affect the interpretations among different people. Interpretivists strive to describe meaning and create their realities in order to understand their points of view and to interpret these experiences in the context of the researchers' academic experience to build an (inductive) theory (Tashakkori and Teddlie, 1998). The focal point of the researchers, to understand the meanings and interpretations of 'social actors' and to understand their world from their point of view, is extremely contextual, and hence it is not widely generalisable (Saunders et al., 2007).

The third school of thought is pragmatism, which believes that the most appropriate means of knowledge gathering are to mix both positivism and interpretivsm views (Tashakkori and Teddlie, 1998). Many scholars have been involved in the debate over mixed methods and mixed models research and this has led to the emergence of pragmatic paradigms (Tashakkori and Creswell, 2007). For example, Morse (1991) used a pragmatic paradigm in his review of nursing studies and Meekers (1994) applied a pragmatic approach in the study of marriage patterns in Zimbabwe among Shona-speaking people. The application of a pragmatic approach in mixed-methods has become more prominent in social science research. Tashakkori and Teddlie

(1998), however, acknowledge that this has left behind the legacy of discussion regarding the importance of paradigms in research and a lack of clarity associated with terminology. Pragmatism is ‘a position that argues that the most important determinant of the research philosophy adopted is the research question, arguing that it is possible to work within both positivist (quantitative) and interpretivist (qualitative) positions. It applies a practical approach, integrating different perspectives to help to collect and interpret data’ (Saunders et al., 2009, p.598). Combining the two methods can complement each other (Creswell 2003); the use of both positivism (quantitative) and interpretivism (qualitative) can therefore be advantageous (Patton, 1990). The pragmatic approach directly links the adoption of the paradigm to the rationale and the nature of the research hypotheses (Creswell, 2003). A research is frequently versatile and so are the methods or tactics that assist the researcher to deal with research questions that sit comfortably within a wholly qualitative or quantitative method to design and methodology (Armitage, 2007). Tashakkori and Teddlie,(1998) and Creswell, (2003) argue that a pragmatic paradigm is a perceptive application to study areas that are of significance, accepting methods that are suitable and using the findings in a positive way and in harmony with the value system held by the researcher.

A number of models have been developed in an attempt to form other paradigms in a social and organisational theory. Among these models, the one developed by Burrell and Morgan (1979) has attracted substantial attention (White, 1983). The Burrell and Morgan model is constructed on two independent dimensions, based on assumptions concerning the nature of social science and the nature of society. In this model, the latter dimension is subdivided into four different, but related, assumptions about the very essence of the phenomena (ontology), the grounds of knowledge (epistemology), the relation between human beings (human nature) and the way in which one attempts to investigate and obtain knowledge about the real world (methodology) (Hassard, 1991). By interconnecting the subjective–objective debates in the theory of social science, with the consensus–conflict debates in the theory of society, Burrell and Morgan (1979) produced four paradigms, known as: functionalist, interpretive, radical humanist and radical structuralist.

For the purpose of this study, the pragmatic paradigm is adopted. The pragmatism approach is particularly suitable for a mixed-method research which combines both quantitative and qualitative methods, and is therefore considered to be the most appropriate approach for this study. Another reason for the adoption of the pragmatic paradigm is that this approach provides the fundamental theoretical and empirical framework for mixed-methods research (Tashakkori and Teddlie, 2003; Sarantakos, 1998). Arguably the adoption of the pragmatist assumption is justifiable, because the existence of the knowledge of regulatory governance system is independent of our experiences, and they can also be determined by human interaction. Similarly, the researcher is seeking ways to explain whether Nigeria's downstream regulatory governance practice is fit for purpose, based on the circumstances, needs and objectives of the country. Thus, in the context of this research, the behaviours of individuals are defined and influenced by the situation or environment within which the regulatory governance framework is designed and implemented.

5.3 Development of the hypotheses

As guided by literature and the regulatory governance framework identified by the IMF 2004, World Bank 2003, OECD 2002 and Quintyn 2002, the following research hypotheses were developed and are to be tested in this study:

(i) Main research hypothesis

HO_1 – The regulatory governance practice in Nigeria's downstream petroleum sector is not fit for purpose

(ii) Sub-hypotheses

HO_1 – There are inadequate independence arrangements in place to enable Nigeria's downstream regulatory agencies to ensure good regulatory governance practice in the sector

Regulatory agencies should have a clear legal mandate that allows them to be free from any form of interference. The main role of regulatory agencies is to make new regulations, review existing regulations and improve the quality of regulatory governance, and as such it should be highly autonomous (Baton, 1958). The central

pillar of a good regulatory governance system is the independence and legislative mandate, which protects regulatory agencies from the influence of external bodies. Independence is the most important mechanism for achieving good regulatory governance practice (OECD, 2000).

According to the law established by the Petroleum Act 1969, and amended in 1998, Nigeria's downstream regulatory agencies are required to be autonomous from any external interference, such as other regulatory agencies around the world. Nigeria's downstream regulatory agencies should have a clear definition of their roles and responsibilities, should independently monitor regulatory quality in the downstream petroleum sector and should have the power to punish any regulated companies that do not adhere to the regulations. Moreover, they should be given the necessary financial resources required to exercise their powers effectively. However, from the literature reviewed above there are certain concerns that Nigeria's downstream petroleum sector is lacking the independence to carry out its duties. This hypothesis is developed on this assertion and will test whether Nigeria's downstream regulatory agencies are independent and autonomous in exercising their regulatory mandate.

HO_2 – Inadequate accountability mechanisms are in place and this affects the regulatory governance practice of Nigeria's downstream regulatory agencies

The compliance of regulatory agencies to appropriate accounting mechanisms is the main prerequisite for attainting good regulatory governance (OECD, 2002). To be credible and to be recognised by regulated companies, regulatory agencies should be highly accountable in discharging their regulatory functions (OECD, 2004). Furthermore, regulatory agencies must stress the importance of accountability when making regulations. Kirkpatrick and Zhang (2004) argue that it is vital for the agency to be able to justify (to be accountable for) its actions according to the mandate given to it by the legislature. Similarly, for any regulatory agency to achieve good regulatory governance it must be accountable to those who delegated the responsibility, not only the government, or the legislature, but also to those who fall under their functional jurisdiction and to the public at large (stakeholders) (OECD, 2002; IMF, 2004).

Nigeria's downstream regulatory agencies, like the majority of other regulatory agencies around the world, are required by law (the Petroleum Act 1969 as amended in 1998) to be accountable. They are required to publish their financial reports and justify any expenditure incurred when fulfilling their duties. Their accounts need to be submitted for external auditing. But despite what is stated by the law, there are many accountability issues with Nigeria's downstream regulatory agencies. This hypothesis is developed to test whether or not this accountability actually exists in practice.

HO_3 – Inadequate transparency mechanisms are in place and this affects the regulatory governance practice of Nigeria's downstream regulatory agencies

Transparency, in relation to a good regulatory governance system, ranges from a simple public notification that regulatory decisions have been taken, to stringent controls concerning administrative discretion and corruption (IMF, 2004). According to Kirkpatrick (2006), transparency is an important mechanism that contributes to good regulatory governance. When drafting regulations, it is of paramount importance to consult all stakeholders for the purpose of transparency (OECD, 2001).When drafting regulations, consultation and the use of clear language are two essential components which support the decision-making process and ensure transparency (OECD, 2002). Information disclosure is vital to the promotion of transparency. Consistent and transparent processes in formulating, implementing and reviewing regulations are necessary in order to maintain public confidence and to guarantee opportunities for the public to participate in a good regulatory governance system (OECD, 2005).

Just like other regulatory agencies around the globe, Nigeria's downstream regulatory agencies are required by law (the Petroleum Act 1969, as amended in 1998) to be transparent in discharging their assigned roles and responsibilities. For example, they are expected to follow predetermined processes in the issuance of import permit licenses and involve stakeholders in all major decisions. Moreover, the stakeholders should be made aware of the actual imported petroleum products being imported. Openness is also required in work being undertaken in ports, terminals, depots and filling stations. Moreover, they are not expected to discriminate by sanctioning regulated companies that do not conform to, or violate, regulations.

Contrary to the requirements of the law, there are concerns that Nigeria's downstream regulatory agencies are not doing enough in terms of ensuring openness when discharging their regulatory duties. Therefore, hypothesis HO_3 was developed in order to test whether or not such transparency practice is obtainable.

HO_4 – Lack of expertise affects the regulatory governance practice of Nigeria's downstream regulatory agencies

A lack of expertise and necessary skills prevent many regulatory agencies from achieving good regulatory agency practices (OECD, 2005). To achieve good regulatory governance it is imperative that the regulators are highly trained in the field of regulation (IMF, 2004) and have the expertise to formulate and implement a good regulatory governance system (World Bank, 2003). In support of this aim, regulatory agencies should develop manuals and other guidelines, important requirements for the training of regulators (OECD, 2005). Kirkpatrick and Zhang (2004) state that it is vital for regulatory authorities to have experience and to have undergone rigorous training, so as to accumulate knowledge of a good regulatory governance system. Poor skills and a lack of expertise among regulators may have a detrimental effect on the quality of a regulatory governance system (OECD, 2005).

Similar to their counterparts around the world, Nigeria's downstream regulatory agency personnel must possess the necessary skills, integrity, knowledge and expertise in regulatory governance principles, as required by national legislation (the Petroleum Act 1969, as amended in 1998). Additionally, they should have the capability to formulate good policies in the sector, as well as knowledge of the mechanisms required to foster awareness of good regulatory governance. Furthermore, staff are expected to pursue regulatory goals without compromising them. However, Nigeria's downstream petroleum sector is faced with the problem of instability, which could possibly be related to the lack of required expertise and resources to formulate and implement sound policies in the sector. This assertion is the basis on which this hypothesis has been developed, in order to test whether Nigeria's downstream regulators have adequate skills/expertise in regulatory governance.

5.4 Research methods

The research method refers to the data collection techniques and the type of analysis employed in the study. There are two main research approaches, referred to as qualitative and quantitative methods (Bell and Bryman, 2007). The mixed-method approach, regarded as a third option, is a combination of both quantitative and qualitative methods (Saunders et al., 2009).

Devine (2002) and Teddlie and Tashakkori (2006) argue that the qualitative method is the process of understanding the experiences, perceptions and history of the people in their natural setting. The main concern of qualitative research is to understand the meaning of a phenomenon and the reasons why individuals and groups think or behave in a particular way about certain issues (Creswell, 2013; Eriksson and Kovalainen, 2008; Busha and Harter; 1980). Bell and Bryman (2007) examined the qualitative method as a broader concept when a particular culture and environment is being studied, and when ethnography is the most appropriate as method. On the other hand, when attention is placed on an in-depth examination of a particular experience, then phenomenology would be suitable (Saunders et al., 2011; Resnik, 2010; Morse, 1991; Patton, 2002). Also, when dialogue or conversation is under investigation, then discourse analysis is indicated. Qualitative research views the situation from the researhers' real world setting (Saunders el al., 2009; Patton, 2001).

Sheila (2009) stated that the following were the key features of qualitative research:

1. The qualitative method usually involves careful sampling of the research participants, who should be as representative as possible of the population as a whole.
2. The qualitative method enables informal interaction between the researcher and research participants, rather like a normal conversation; it is fluid, open-ended, dynamic and (to a degree) spontaneous and creative.
3. The qualitative method aims to understand people holistically, by recognising what they think or feel, as well as their emotion and intuitive knowledge. This method also encourages the research participants to respond to ideas that are presented to them and to generate their own ideas.

4. The qualitative method involves a high level of interpretation and synthesis of data by the researcher throughout the research process, both in the interaction with research participants and in the analysis and presentation of the research outcomes.
5. The qualitative method starts with an attempt to understand the world of the individuals being researched, to gain some thoughtful insight into what is important to them, how they view the world, and the context within which they evaluate the idea, product or service that may be presented to them. The emphasis is on the depth of understanding and relationship that the individual has.

On the other hand, the quantitative method is generally regarded as a scientific method of conducting research. Sheila (2009) posited that the major feature of the quantitative method is that it has the ability to measure the proportion of a population that think or behave in a particular way. Thus it appears objective in nature. A quantitative method is more suitable when a research aims to 'discover how many and what kind of people in the general, or parent population, have a particular characteristic which has been found to exist in the sample population' (Brannen, 1992, p. 5). Quantitative methods place more emphasis on numerical, measurement, sampling and designing issues and analysis of the informal relationships between the variables (Sekaran, 2006; Trochim, 2006; Somekh and Lewin, 2005; Devine, 2002). According to Sheila (2009), the quantitative method is said to have following attributes:

1. It involves statistical and numerical measurement of the raw data captured in questionnaires.
2. The results can be used as a benchmark; the survey can be repeated in the future using the same questions, and the results can be compared.
3. It generally involves large numbers of people, including specific subgroups, grouped for example by age, social class, marital status or brand usage.

Mixed-method research involves a combination of both quantitative and qualitative research approaches in a particular study (Armitage and Keeble-allen, 2007; Ivankova et al., 2006; Johnson and Onwuegbuzie, 2004; Ryan et al., 2002; Brannen, 1992). In the context of this current study, the mixed-method approach is adopted in

order to allow the research to benefit from the attributes of both qualitative and quantitative methods. Many reasons informed the adoption of this method.

First, combining these approaches will enhance an appropriate investigation into Nigeria's downstream petroleum sector. Second, this method will help to facilitate and obtain an in-depth knowledge of regulatory governance issues in Nigeria's downstream petroleum sector. Third, employing mixed-method research will enable a better understanding of individual perceptions in relation to Nigeria's downstream regulatory governance practice. Fourth, mixed-method research has the capability to facilitate complementary outcomes, by using the strength of one method to overcome the weaknesses of the other. Fifth, the use of mixed-method research will help the researcher examine and acquire more information relating to the research hypotheses.

Sixth, the reason for combining both qualitative and quantitative methods is because the study intends to use both the questionnaire and interview method of data collection. Thus, the mixed-method approach perfectly matches this research's aim of gaining the perceptions of different stakeholders. Moreover, the participants' knowledge, views and records relative to regulatory governance and Nigeria's downstream sector are essential for this study.

5.4.1 The population of the study

The term 'population' is defined as an entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran, 2006). Knowledge of the population at the outset of a study is crucial when it comes to identifying appropriate sources from which data for the study can be collected (Sekaran, 2006). In this study ten legitimate stakeholder groups were appropriately selected.

1- The Department of Petroleum Resources. The DPR formed part of the study population because the general responsibilities and objectives of the DPR are to ensure compliance with petroleum laws and regulations through the monitoring of the operations of the upstream and downstream companies. A total of 18 experts were identified to be the population of this stakeholder group.

2- The Petroleum Product Pricing Regulatory Agency. The PPPRA was established to determine the pricing of petroleum products and regulate the supply

and distribution and, by its mandate, it also has the responsibility to ensure the availability of petroleum products at a reasonable price; this made it a suitable participant in this study. The operations department is responsible for regulating the price of petroleum products. The department is headed by the General Manager of Operations and other 16 staff.

3- The Petroleum Equalisation Fund. The PEF was selected to partake in this research because it is an agency established primarily to administer uniform prices of petroleum products throughout the country. This is achieved by reimbursing the marketer's transportation differentials for the movement of petroleum products from the depots to their sales outlets (filling stations), in order to ensure that products are sold at a uniform pump price throughout the country. A total of 16 experts were identified from the technical department; the department is responsible for ensuring regulations in relation to price equalisation are adhered to.

4- The Pipelines and Product Marketing Company. The PPMC was established to ensure the security of the supply of petroleum products to the domestic market at low operating costs, to market special products competitively in the domestic and international markets, and to provide excellent customer service by effectively and efficiently transporting crude oil to the refineries and moving petroleum products to the market. It was therefore considered relevant to this research The PPMC has five area offices across the country: Port-Harcourt, Warri, Mosimi, Kaduna and Gombe. The area offices are each headed by an Area Manager. Since the five area offices have uniform responsibility, only the KADUNA area office was selected and 17 experts were identified as the population of this study.

5- The Nigerian Extractive Industry Transparency Initiative. NEITI was selected because it was mandated by law to promote transparency and accountability in the management of Nigeria's oil, gas and mining revenues. A major component of the on-going anti-corruption reform in Nigeria that ensures good governance, NEITI consists of four departments: the Executive Secretary's Department, the Technical Department, Communications Department and the Finance & Administrations Department. Only executive secretaries and the Technical department were asked to participate, as they are believed to be better informed than the other departmental staff: 16 experts were identified and formed part of the study population.

6- The National Assembly. The NA was included as part of the study population because it is the body responsible for making laws in Nigeria and it is actively engaged, through its oil and gas committee, in ensuring that the laws relating to the oil petroleum industry are up to date. There is a House of Representatives committee on downstream petroleum (with 8 members) and a senate committee of petroleum downstream (with 5 members). In total 13 experts were identified to form part of the study population. When legislatures perceive there are inefficiencies within a certain sector of the economy they usually take drastic measures to resolve the problem. **7-**

7- **Major oil marketing companies.** MOMC were selected due to the fact that they are regulated companies which are expected to adhere to the regulations stipulated by the regulatory agencies when selling refined products to the final consumer. There are six MOMCs in the country. These six companies have the same business characteristics; they are all engaged in marketing refined petroleum products and lubricants through their retail outlets nationwide. A total of 14 experts were identified from four companies; these experts are the main contact of regulatory agencies in each of the companies, and as such they are in a better position to be well informed on the phenomenon under investigation.

8- The independent oil marketing companies. The IOMC formed part of the study because they are also regulated companies that market petroleum products in the country. They are usually one-man businesses, only companies that have more than 40 retail outlets and have been in the downstream business for twenty years were selected. It is likely that companies fitting these parameters will have adequate knowledge of downstream regulations in Nigeria. In all, 12 independent marketers were identified to constitute part of the study population.

9- The civil society. The CS was selected because its members represent the opinion of the general public. For any regulation to be successful, it should be designed to provide opportunities and sustainable growth and development in line with public interest. There are a number of civil societies in Nigeria, but the Save Nigeria Group (SNG) and the Civil Rights Congress (CRC) were selected because they are the most prominent and are always committed to issues regarding the downstream petroleum sector. In total, 13 experts were identified and formed part of the study population.

10- The trade unions. The TU were included because they represent the voice of the general public and that of the Nigerian labour force. The Petroleum and Natural Gas Senior Staff Association of Nigeria (PENGASSAN) and National Union of Petroleum and Natural Gas Workers (NUPENG) were also selected since they are representative of Nigeria's oil and gas workers, including the downstream petroleum sector. The management of the unions was targeted and 14 members were identified as participants in this research.

Table 5.1: Summary of the respondents' groups population estimation

Respondent Groups	Respondents
Department of Petroleum Resources (DPR),	18
Product Pricing Regulatory Agency (PPPRA)	17
Petroleum Equalisation Fund (PEF),	16
Pipelines and Product Marketing Company (PPMC),	17
Nigeria Extractive Industry Transparency Initiative (NEITI),	16
National Assembly (NA)	13
Major oil marketing companies (MOMC)	14
Independent oil marketing (IOMC)	12
Civil society (CS)	13
Trade unions (TU)	14
Total	**150**

Source: Based on pilot study

Table 5.1 shows a total of 150 respondents from the ten stakeholder groups, which constitute the population of the study. These experts were selected based on the expertise and knowledge they possessed as well as their relevance to Nigeria's downstream petroleum sector.

With the exception of the civil society and trade unions, each of the other eight groups maintains a downstream petroleum unit. To ensure that the identified stakeholders had appropriate knowledge of Nigeria's downstream regulatory governance practice, every effort was made to seek assurances and advice from a range of informed individuals in Nigeria's downstream petroleum sector. Based on the input they provided and subsequent analysis of the available information from the

groups selected, these 150 experts were identified as possessing the required knowledge in the field under investigation.

5.4.2 Sample and sampling techniques

According to Patton (2002), certain factors need to be carefully considered when sampling from a population, including: what the researcher wants; the purpose of the research; what is at stake; what will be useful; what will affect the credibility of the research; and what can be done with the available time and resources. A researcher, after considering the above factors, may use judgement to decide on a suitable number of respondents for the study (Marshall, 1996).

The environment under investigation leads to the careful consideration of the sample size of this research. The economic, political and business structure, as well as the environment within which Nigeria's downstream petroleum sector operates, was carefully considered to allow these major stakeholders to be recognised. The total population of 150 respondents were sampled across the stakeholder groups.

5.4.3 Data collection techniques

There are various methods of data collection. According to Fontana and Frey (2005), the data collection method adopted by researchers varies, depending on the type of phenomenon under investigation. A researcher can use either primary (questionnaire and interviews) or secondary (documentary sources) data, or a combination of both.

According to Bush (2002), a questionnaire is a document including questions and other types of statements which is designed to seek appropriate information and allow analysis of it accordingly. The questionnaire technique is regarded as one of the most generally acceptable methods of data collection (Teddlie and Tashakkori, 2006; Saunders et al., 2003; Van Teijlingen and Hundley, 2001). Saunders et al. (2003) identified a number of guidelines to ensure the effectiveness of a questionnaire, which include specifying: the information needed, what is to be incorporated in each question, what types of query are to be asked, how many question are to be included, the capability of the participants to answer the query, the enthusiasm of participants to answer questions, and the structure of the questions.

A questionnaire can be structured, semi-structured, or unstructured. A structured questionnaire consists of pre-coded questions, with good clear outlines of the questions (Saunders et al., 2003). Among the advantages of structured questionnaires are uniformity in answering, simplicity of data management and ease of administration. An unstructured questionnaire involves the use of open-ended questions. According to Van Teijlingen and Hundley (2001), an unstructured questionnaire is mainly suited to focus group research. A questionnaire with a combination of both closed and open questions is considered to be a semi-structured or quasi-structured questionnaire. Therefore the semi-structured questionnaire assists the researcher in collecting both quantitative and qualitative data.

Like the questionnaire, interviews are generally used in social science research as a data collection instrument (Trochim, 2006). Cohen and Manion (1994) argue that interviews are incredibly important, mainly for obtaining the story behind respondents' knowledge. Interviewers have the opportunity to ask further information around the subject matter in order to attain in-depth knowledge about the phenomenon under investigation (Wahyuni, 2012). In this regard, the research objectives direct the questions asked in the interviews, the content, sequence, and wording of questions are completely at the discretion of the interviewer (Johnson and Onwuegbuzie, 2004). There are three types of interview: structured, semi-structured and unstructured (Fontana and Frey, 2005).

In structured interviews, the set questions could be asked in the same order to all the interviewees. A semi-structured interview is moderately more flexible than a structured interview and it involves the use of closed-ended and open-ended questions. An unstructured interview relies on social interaction between the interviewer and the interviewee (John, 2009). The central objective of an unstructured interview is to expose the researchers to unexpected ideas which will help him/her to gain a better understanding of the respondents' social reality from their point of view.

This research adopts the questionnaire and interview method to collect data from diverse participants. A combination of these methods will help to overcome the weaknesses of one method when employing the other. The reason for adopting the questionnaire and interview is to obtain a reasonable respondent sample across all

stakeholder groups concerned with downstream regulatory governance in Nigeria. This will guarantee a fair representation of the population. Analysis of the perceptions held by the different groups will shed light on the regulatory governance of Nigeria's downstream petroleum sector from different perspectives and will enrich and enhance the literature. These techniques are adopted because of the descriptive nature of the research and the fact that it is concerned with the opinions and attitudes of the informed.

Secondary data was obtained from available literature such as journals, books, government reports, magazines, newspapers and extra-governmental agencies' reports (e.g. NGOs, OPEC, UNDP World bank).

5.4.3.1 Questionnaire design

The main sources of data in this research will be the opinions of the respondents obtained from carefully worded questionnaires. The reason for this is that the respondents – the main stakeholders in Nigeria's downstream petroleum sector – possess relevant information on the regulatory governance in this sector. The questionnaires are a typical form of information gathering which simplifies the gathering of evidence on the public's beliefs (Burrell and Morgan, 1979). After more than two months of drafting and rewording, the questionnaire was simplified in such a way that all the respondents could understand and respond to the questions easily. It is evident that this helped the respondents to answer the questions easily, given that none of the respondents complained or asked for an explanation regarding their wording.

To simplify and ensure the effectiveness of the questionnaire, both close-ended and open-ended questions were designed. To maximise the validity, minimise the respondent burden and reduce the financial costs of data collection, a five point Likert scale was employed (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree). This enabled respondents to indicate their opinion by ticking the appropriate boxes, except for the first section which asked for their demographic characteristics.

The questionnaire was divided into four sections (see Appendix 1). Section one requested information relating to the respondents place of employment. Sections two,

three and four asked the respondents about the independence, accountability, transparency and expertise of the regulatory governance practice in Nigeria's downstream petroleum sector of the DPR, PPPRA and PEF, respectively.

5.4.3.2 Interview

An interview is 'a verbal interaction between one or more researchers and one or more respondents for the purpose of collecting valid and reliable data to answer particular research questions' (Parahoo, 2006). The use of interviews in a research is a valuable tool because they are flexible enough to allow for several circumstances, are easily administered and achieve a good response rate (Sarantakos, 1998).

Although an interview may be structured, semi-structured or unstructured (Patton, 2002; Sekaran, 1992), this study chose to adopt the semi-structured interview as it is the perfect choice for an in-depth research and is a broadly acceptable method in literature. It also increases the rationality of the tool since participants will be assisted in understanding the queries and at the same time the interviewer may ask for further explanation (Creswell, 2009; Fontana and Frey, 2005). Twenty experts were selected to participate in a follow-up interview. The selection of these interviewees was based on the level of their skills and their experience in the downstream petroleum sector and certain criteria were used in selecting them: (a) only two respondents from each of the ten stakeholders groups; (b) only staff in managerial positions; and (c) only those officials that have spent seven years or more working in the downstream petroleum sector. The researcher identified these experts with the help of the research assistants in each of the ten stakeholder organisations. In addition, the pilot study and the initial data collected further guided the selection of these experts. The sampling technique used in the interview is appropriate because the abovementioned participants are believed to be more knowledgeable in the area under investigation.

5.4.3.3 Pilot study

The main objectives of a pilot study are to provide information that could enhance the reliability and validity of the research. A pilot study is 'a specific pre-testing of research instruments, including questionnaire or interview schedules' (Van Teijlingen and Hundley, 2001, p. 1). The pilot testing helps to save time, money and

effort which cannot be recovered if a study fails due to unforeseen circumstances. Similarly, a pilot test allows researchers to change or amend the questions so as to be very clear and to guarantee the success of the data collection process (Abdel-Khalik, and Ajinkya, 1979; Saunders et al., 2003).

Two pilot tests were carried out in this study. The initial test was performed at the Robert Gordon University Aberdeen Business School (ABS) with six research students and two academic staff. All their observations, suggestions, comments and recommendations relating to the wording and the arrangement of the questionnaire were incorporated. The second pilot test was conducted in Nigeria on the stakeholder groups, with the help of a friend who is in a position of authority in one of the major oil marketing companies in Nigeria connected to all the respondent groups in the downstream sector. The respondents were selected from appropriate departments believed to be highly experienced in Nigeria's downstream sector. Very useful observations and submission were made. There were no complaints in relation to the wording or the clarity of the questions. However, many participants observed that since there are three regulatory agencies mandated to regulate the downstream sector in Nigeria, the questions should be separated according to the agencies' responsibility. The questionnaire was carefully amended and the adjustments were made in line with the respondents' observations.

5.4.3.4 Reliability and validity

Reliability and validity are essential in evaluating the quality of a research (Golafshani, 2003). Many researchers argue that the concepts of reliability and validity can be used in all research because the central idea is to ensure the credibility of the findings (Kuzel and Engel, 2001).

In relation to this study, the participants were given four weeks to complete the questionnaire. This ensured that the respondents were not under duress and as such their responses were believed to be correct. As participant bias can occur when participants are identified individually in order to generate desirable answers, the respondents in this study remained anonymous. It is, therefore, guaranteed that the reliability of the questionnaire was not in any way affected by participant bias. Similarly, observer errors were avoided by minimising, standardising and

interpreting the questionnaire so that the respondents found the questions easy and interesting. The researcher was very objective during the data collection and data analysis, which significantly minimised observer bias.

Validity refers to the appropriateness, meaningfulness and usefulness that determine precise research objectives. Validity is usually seen as an essential component that evaluates and measures a particular purpose (Jensen, 2003; Bush, 2002). According to Saunders et al. (2003), validity is the ability to measure what was proposed to be evaluated and to assess how reliable and acceptable the research finding will be. In order to ensure the validity of this research about 97% of the questions were standardised to ensure that the respondents interpreted the questions in a similar way.

5.4.3.5 Questionnaire administration

The researcher personally administered all the questionnaires to the respondents. Almost all the major stakeholders groups that participated in this study were located in Abuja, Lagos and Kaduna. The researcher visited these organisations and met with the officials responsible for handling research related matters. The questionnaires were given to the officials, who in turn identified and distributed them to appropriate personnel. With regards to the NEITI, the researcher was unable to personally meet the individual in charge of the research, despite several unsuccessful visits to the office in an attempt to contact the right officer. Thus, the researcher decided to seek the help of a family friend who happened to know the Executive Secretary (ES). Upon contacting the executive secretary, an appointment was made the following day to meet in her office. The ES was impressed with the aim of the research, and directed her secretary to call the officer in charge of handling research matters. She then requested that the officer identified and distributed the questionnaire to the appropriate respondents.

Although some questionnaires were returned within two weeks, others took up to four or five weeks. Several telephone calls and personal visits were made to the organisations in order to maximise the response rate.

5.5 The method of data analysis

According to Bogden and Bilken (1982, p. 145) data analysis involves: 'The process of systematically searching and arranging the interview transcripts, field-notes, and other materials that you accumulate to increase your understanding of them and to enable you to present what you have discovered to others'. According to Miles and Huberman (1994) data analysis consists of three activities: (i) data reduction; (ii) data display, referring to organising information to enable conclusions; and (iii) drawing conclusions and verification. The three activities are interrelated during and after data collection. These processes can be attained by using parametric or non-parametric statistic tests.

Geisser and Johnson (2006) argue that parametric statistics is a branch of statistics that assumes data can be represented by a probability distribution and inferences are made about the parameters of the distribution. Dallal (2001) identified a number of parametric statistical tests including: (i) the *t* test which compares two independent samples; (ii) the paired *t* test which examines a set of differences; (iii) the Pearson correlation coefficient, which assesses the linear association between two variables; (vi) the one way analysis of variance (*F* test) which compares three or more groups; and (v) the two way analysis of variance which compares groups classified by two different factors.

Non-parametric statistics are a branch of statistics that do not depend on the type of probability distribution which describes the data. The following are regarded as the most commonly used non-parametric statistical tests: (i) the Mann-Whitney U test; the Wilcoxon rank-sum test, which compares two independent samples; (ii) the Wilcoxon matched pairs signed-rank test, which examines a set of differences; (iii) the Spearman rank correlation coefficient which assesses the linear association between two variables; (vi) the Kruskal-Wallis analysis of variance by ranks, used to compare three or more groups; and (v) the Friedman two way analysis of variance, used when comparing groups classified by two different factors (Bryman and Cramer, 2001; Dallal 2001).

This study adopts descriptive statistics and a non-parametric statistical test to enable analysis of the data. Descriptive statistical methods, such as calculating the mean and

median, cross-tabulation and frequencies were used in the data analysis. This helped to analyse the differences and characteristics among the respondent groups. Where significant differences existed between respondent groups, a Mann-Whitney test was conducted. The main reason for the adoption of a Mann-Whitney test is that it is believed to be the most widely used statistical tools and generates excellent results. According to Landers (1981), the Mann-Whitney test is one of the most powerful non-parametric tests and, like other non-parametric tests, does not depend on assumptions on the distribution of the population. This study analysed the data in line with the objectives of the research by considering the following stages:

(a) Reduction of the data: The data was reduced by focusing on Public Interest Theory of regulation as a framework; this process was also beneficial in helping to determine the most appropriate respondents. The careful manner in which the survey questions were constructed also contributed, as did the tables and figures used to present the data.

(b) Codification of the data: Data coding is the process of translating questionnaire data into a significant category to enable easy analysis (Williams, 2003). In this study, the questionnaire responses were coded separately into a coding sheet before entering into a database. The coding of the questionnaire was successful, largely as a result of the assistance given by the supervisory team and other research students, which helped to prevent any mistakes arising during coding.

(c) Statistical tools adopted: SPSS statistical software was used in order to enable the coded data to be input. Even though there are other statistical tools[7] that could be applied, the adoption of the SPSS was necessary because the package is regarded as the most powerful data analysis software and can handle very complex statistical procedures (Pallant, 2010). It is also one of the most commonly used software programs in social science research.

(d) The missing value analysis: Missing values can occur when respondents do not reply to a question because they refuse to, or they

[7] These include AtlasTi, Hyperreserch, Nud*ist, Nud*ist Nvivo, Decision Explorer, and Minitab.

fail to understand the query, or lack the time to answer the question, or they lose interest (Raymond, 1986). Missing data usually causes problems during data analysis. According to Croninger and Douglas (2005), missing data affects the validity of a research. The missing data in this study were discovered as MCAR[8]. A mean estimation technique was applied and the missing values were computed. The reason for using a mean estimation technique is that the software employed (SPSS) in this study has characteristics that are capable of automatically computing the mean estimation. Additionally, the mean estimation technique is one of the most commonly used techniques (Raymond, 1986).

(e) The statistical tests and discussion of results: Descriptive and non-parametric statistical tests were adopted, which helped the analysis of the data. The descriptive statistics of frequencies, mean, median and cross-tabulation were used to analyse the demographic characteristics of the respondents and to explain the overall perceptions of the respondents in relation to each of the tested variables. The Mann-Whitney test was used as it is one of the most powerful tools in non-parametric statistics. The differences between the respondent groups were identified and discussed using Mann-Whitney tests.

(f) Summary of the main results: Based on the findings and the possible practical implications of each of the outcomes, a summary was made. The summary provides the basis for this study's conclusion as presented in the last chapter.

[8] Generally, literature identifies three types of missing data (Nakai and Ke, 2011): i) Missing completely at random (MCAR), which means the probability that responses are missing is unrelated to both the specific values that should have been obtained and the set of observed responses; ii) Missing at random (MAR), referring to the probability that responses are missing depends on the set of observed responses, but is unrelated to the specific missing values that should have been obtained; and iii) Not missing at random (NMAR), in which the probability that responses are missing depends on both the specific values that should have been obtained and the set of observed responses. The determination of the data as MCAR was through Little's MCAR test. The test is based on the assumption that the calculated mean of the observed data in each assessment under MCAR is always the same, regardless of the pattern of missing information (Little, 1988).

5.6 Conclusion

This chapter has reviewed literature on research methodology and methods. This enabled the study to adopt the most appropriate methodology and methods. As a result, the pragmatic paradigm method was adopted for this research. This paradigm involves the adoption of the mixed-method approach. Both the interview and questionnaire techniques were employed as appropriate methods of data collection and the data for the study were analysed using the SPSS statistical tools.

CHAPTER SIX

Data analysis and presentation

6.1 Introduction

The aim of this chapter is to present and analyse the data collected through the questionnaire-based survey. In order to achieve this, the chapter is divided into four sections. The response rate of the questionnaire is analysed in Section 6.2. Section 6.3 presents the demographic characteristic of the respondents using descriptive statistics. In Section 6.4 the analysis of the main findings from the questionnaire-based survey is discussed and Section 6.5 concludes.

6.2 Questionnaire response

According to Williams (2003) questionnaire response rates differ from one questionnaire to another and usually falls between the ranges of 10% to 90%. Walonick (2004) further believes that a well-designed questionnaire contributes to a high response rate. Although 150 questionnaires were administered in this study to all the ten groups of respondents, only 104 questionnaires were returned (see Table 6.1).

Table 6.1: Questionnaires issued and returned based on the respondent groups

Respondent groups	Issued	Returned	Excluded	Used
Department of Petroleum Resources	18	13	0	13
Petroleum Product Pricing Regulatory Agency	17	11	0	11
Petroleum Equalisation Fund	16	11	0	11
Pipeline and Product Marketing Company	17	13	0	13
Nigeria's Extractive Industry Transparency Initiative	16	10	0	10
National Assembly	13	9	0	9
Major Oil Marketing Companies	14	10	0	10
Independent Oil Marketing Companies	12	8	0	8
Civil Society	13	9	2	7
Trade Unions	14	10	0	10
Total	**150**	**104**	**2**	**102**

Out of the 104 questionnaires, 2 were excluded because they were not completed in accordance with the instructions given. The remaining 102 questionnaires constituted 68% of the total questionnaire administered. In line with Walonick's (2004) assertion, this is a very good response rate. Thus the analysis and presentation is based on 102 returned questionnaires.

There are many factors that contribute to the achievement of the high response rate in this study:

(1) The questionnaires were distributed with the help of officers selected from each of the ten stakeholders, and the officers assisted by identifying the right respondents with relevant experience in each of the ten agencies. Moreover, the full cooperation of these officers also contributed to the high response rate.

(2) After administering the questionnaires, sufficient time was given to the respondents to reply. Constant follow-up via telephone and personal visits to the agencies over a period of four weeks also motivated the respondents to complete the questionnaires. After completing the questionnaire, some respondents were able to call the researcher to come and collect it.

(3) The way in which the questionnaires were designed contributes to the high response rate (see Appendix 1). A covering letter was attached to the questionnaire which stipulated that the identity of the respondents would not be disclosed at any time. Also, the procedures for completing the questionnaire and the objectives of the research were clearly stated in the letter.

(4) An introductory letter produced by the supervisory team, stating the importance of this study, also led to the achievement of such a high response rate (see Appendix 1).

6.2.1 Data check

The first step described in this chapter is to ensure that the data is accurate by crosschecking the coding and the value entered into the SPSS programme file. This was achieved by individually checking all the questionnaires entered to authenticate the integrity of the data. The data check discovered that in four instances the data

were wrongly entered. For example, the value of 33 was erroneously entered into a cell instead of 3; a value was skipped and entered into another variable cell. After discovering these errors, it was decided to crosscheck the SPSS data file, referring back to each of the returned questionnaires over and over again. All errors were corrected accordingly.

6.2.2 Missing values

After analysing the responses carefully, it was discovered that a total of 20 cases were missing, ranging from 1 to 5 (see Table 6.2). The missing value constitutes less than 1% of the total number of responses. To address this issue, a Little's MCAR test was carried out to determine the actual missing value The test revealed a Chi-Square = 936.764, DF = 903, sig. =.212; since the significance value is greater than alpha value (0.05), the data is referred to as MCAR in this study (no identification pattern exists for the missing data). Consequently, a mean estimation technique was used to complete the missing data.

Table 6.2: Pattern of cases with missing value

S/N	Cases	Missing value	Missing value percentage
1	7	1	1.4
2	8	1	1.4
3	16	1	1.4
4	20	2	2.8
5	26	1	1.4
6	27	2	2.8
7	28	1	1.4
8	33	1	1.4
9	46	1	1.4
10	49	1	1.4
11	50	1	1.4
12	52	5	6.9
13	58	2	2.8

6.3 Demographic characteristics of respondents

In this study the only demographic characteristic included was the respondents' place of work. This is because all the respondents working for the ten stakeholders are

believed to have a basic knowledge of the downstream petroleum sector in Nigeria. Table 6.3 shows the response frequencies from the place of work of the respondents.

Table 6.3: Frequency of respondents' demographic characteristics

Place of work	Frequency	Percentage
Department of Petroleum Resources	13	12.70
Petroleum Product Pricing Regulatory Agency	11	10.80
Petroleum Equalisation Fund	11	10.80
Pipeline and Product Marketing Company	13	12.70
Nigeria Extractive Industry Transparency Initiative	10	9.80
National Assembly	9	8.82
Major Oil Marketing Companies	10	9.80
Independent Oil Marketing Companies	8	7.80
Civil Society	7	6.90
Trade Union	10	9.80
Total	**102**	**100.0**

6.4 Main findings of the study

The four hypotheses developed in this research are tested in this section. Lean-Guerrero and Franfort-Nachmias (2011, p. 166) stated that testing hypotheses involves a number of stages: (a) state the hypotheses; (b) set criteria for decision; (c) computes the test statistics; (d) make a decision. While developing the hypotheses the measurement of variable, population distribution, sampling techniques and sample size should also be considered (Lean-Guerrero and Franfort-Nachmias, 2011). In Chapter five the hypotheses were developed and thoroughly discussed, considering all the aspects mentioned in this study.

In relation to criteria for accepting or rejecting the four sub-hypotheses developed in section 5.3, the questions asked under each hypothesis were regarded as the major yardstick for measuring such particular hypothesis. Therefore, on each of the hypotheses a number of questions were asked. These questions are regarded as the main indicators for acceptance or rejection of each of the research hypotheses in this study. For example, if ten questions were asked under a particular sub-hypothesis and six were rejected by the respondents the hypothesis would be accepted (and vice versa).

Further, as stated earlier in section 5.4.3.1 a five-point Likert scale was employed in the questionnaire, three point (i.e 1 = strongly disagree, 2 = neutral and 3 = strongly agree) was used for the purpose of this analysis. This is necessary in order to reduce the volume of the data and to ensure the clarity of presentation and analysis.

Descriptive analyses of the frequency distribution of the responses of the respondents' are presented in the subsequent sections below. The aim is to determine the perceptions of the respondents in relation to each of the 71 variables adopted in this research. Mann-Whitney tests were run at 5% level of significance to determine whether differences exist between the respondent groups. Wherever differences exist, cross-tabulation tests were run to analyse the actual percentage of the agreement or disagreement among the respondent groups.

6.4.1 Regulatory independence

This section discusses and analyses the first hypothesis relating to the independence of Nigeria's downstream regulatory agencies. The research hypothesis was developed and the respondents' opinion regarding the independence of the regulatory agencies in the downstream petroleum sector was sought.

HO_1 – There are inadequate independence arrangements in place to enable Nigeria's downstream regulatory agencies to ensure good regulatory governance practice in the sector

An independent and legislative mandate is one of the basic mechanisms of a good regulatory governance regime, as it protects regulatory agencies from external interference (OECD, 2000). This first hypothesis was developed in order to carefully formulate questions relating to the independence of the three regulatory agencies (DPR, PPPRA and PEF) that are responsible for regulating Nigeria's downstream petroleum sector.

6.4.1.1 Perceptions relating to the Department of Petroleum Resources regulatory independence in regulatory governance practice;

As noted in Section 3.4.1, the DPR is among the three regulatory agencies mandated to regulate Nigeria's downstream petroleum sector. Its mandate includes protecting

the interests of the public and that of the government from the interests of regulated companies. These reasons informed the adoption of the Public Interest Theory of regulation in order to ascertain whether the DPR has the autonomy to design regulations that protect the interests of the general public. In view of the Public Interest Theory of regulation and the good regulatory governance framework adopted in this study, five statements were put forward to seek the views of the respondents on the independence of the Department of Petroleum Resources in conducting its regulatory functions.

The frequencies and percentages of the respondent views relating to the DPR independence are shown in Table 6.4: 102 responses were recorded for each of the five statements.

Table 6.4: Descriptive frequencies relating to the Department of Petroleum Resources' regulatory independence

Statements	M	Md	SD	D	N	A	SA	TR
a. The Department of Petroleum Resources has financial autonomy to determine its own budgets.	2.63	2.0	24 (23.5)	30 (29.4)	18 (17.6)	20 (19.6)	10 (9.3)	102 (100)
b. The Department of Petroleum Resources is free to make independent decisions relating to the regulations of the downstream petroleum sector.	2.96	3.00	10 (9.8)	35 (34.3)	17 (16.7)	29 (28.4)	11 (10.8)	102 (100)
c. The Department of Petroleum Resources effectively reprimands regulated companies that do not adhere to regulations.	3.11	3.00	7 (6.9)	39 (38.2)	12 (11.8)	24 (23.5)	20 (19.6)	102 (100)
d. The Department of Petroleum Resources regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.	3.00	3.00	8 (7.8)	28 (27.5)	32 (31.4)	24 (23.5)	10 (9.8)	102 (100)
e. The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel	3.26	4.00	14 (13.7)	28 (27.5)	1 (1.0)	35 (34.3)	24 (23.5)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages.

6.4.1.1.1 Department of Petroleum Resources has the financial autonomy to determine its own budgets

This section analyses respondent views on the extent of the DPR's financial autonomy. The reason for asking this question is to determine whether the DPR has

the power to regulate its budgets. OECD (1997) posited that financial autonomy is one of the fundamental aspects that give agencies the power to conduct their designated responsibilities without interruption. The regulators would have the confidence to discharge their duties when financial autonomy is in place.

As can be seen from Table 6.4, the respondents' views differed. Some 52.9% of the respondents strongly disagreed that the Department of Petroleum Resources has the financial autonomy to determine its own budgets, while 28.9% strongly agreed and the remaining 17.6% were neutral. On discovering divergence in the opinions of the respondents relating to the financial autonomy of DPR, Mann-Whitney tests were run to ascertain the actual discrepancies among the respondent groups. Table 6.5 shows the results.

Table 6.5 indicates that respondents from the PEF, PPMC and IOMC differed from four groups: the NEITI, NA, CS, and TU. On the one hand, 53.9%, 50.0% and 40.0% of PPMC, IOMC and MOMC respondents respectively agreed that the DPR has the financial autonomy to determine its own budgets. 54.5% of the respondents from the PEF took a neutral position. On the other hand, 80.0%, 77.8%, 100% and 90.0% of the respondents from the NEITI, NA, CS and TU respectively disagreed. The disagreement could be reliable given that the views of these four agencies is consistent with the argument made by the Operation Controller of the DPR in charge of the Nasarawa and Benue, who stated that the inability of the Department of Petroleum Resources to regulate the sector efficiently is due to a lack of government funding (*Premium Times*, 6th November 2012).

Table 6.5: Mann-Whitney test relating to 'The Department of Petroleum Resources regulatory independence in regulatory governance'

a) The Department of Petroleum Resources has financial autonomy to determine its own budgets.				
Groups	**N_1**	**N_2**	**C_1**	**T_1**
P_2	.023	.028	.001	.001
P_3	.030	.021	.019	.022
I_1	.015	.025	.002	.001
M_1			.025	.041
b) The Department of Petroleum Resources is free to make independent decisions relating to the regulations of the downstream petroleum sector.				
Groups	**P_1**	**N_2**	**C_1**	**T_1**
P_2	.011	.020	.024	.011

P_3	.007	.014	.027	.008	
I_1	.030	.046	.048	.028	

c) Department of Petroleum Resources effectively reprimands regulated companies that do not adhere to regulations.

Groups	**P_1**	**N_1**	**N_2**	**C_1**	**T_1**
D_1	.003	.003	.008	.005	.008
P_2	.000	.000	.001	.000	.000
P_3	.038	.030		.023	.042
M_1	.032	.034		.035	
I_1	.035	.035		.038	

d) The Department of Petroleum Resources' regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.

Groups	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	.018	.033	.022	.008	.045	.007
P_2	.005	.014	.008	.001	.021	.000

e) The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel.

Groups	**D_1**	**P_1**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
P_2	.009	.002	.000	.014	.001	.034	.000	.000
P_3					.037		.010	.008

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU).

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table.

The above findings reveal that the respondent groups have different opinions in relation to the DPR's financial autonomy. Therefore, since the mean and median scores are 2.63 and 2.0, meaning the percentage of the disagreement from the respondents is higher than the agreements, it could be argued that the DPR lacks the financial autonomy to determine its own budgets. By extension, this affects its regulatory functions of protecting the interest of the general public.

6.4.1.1.2 The Department of Petroleum Resources is free to make independent decisions relating to the regulations of the downstream petroleum sector.

For any regulatory agency to achieve its desired goal it should be free to make independent decisions. Independent decision-making is another vital aspect needed to attain good regulatory governance practice (Kaufmann, 2000; OECD, 2000). Nevertheless, this statement was developed in order to seek the opinion of the respondents on whether the DPR makes regulatory decisions independently, without outside interference.

In Table 6.4, it can be seen from the mean and median scores of 2.96 and 3.00 that the respondents tended towards disagreement. Similarly, out of the 102 respondents, 45 (representing 44.1%) of the respondents strongly disagreed that the DPR is free to make independent decisions relating to regulations of the downstream petroleum sector. However, 42.2% of the respondents strongly agreed with the statements, while 16.7% of the respondents took a neutral position. A Mann-Whitney test was run to determine whether significant differences exist between the respondent groups.

Table 6.5 shows that the PEF, PPMC and IOMC differed from four groups: the PPRA, NA, CS and TU. A cross-tabulation test revealed that 63.6%, 80.0% and 62.5% of the respondents from the PEF, PPMC and IOMC respectively strongly agreed that the DPR is free to make independent decisions relating to regulations of the downstream petroleum sector. This is contrary to the 54.6%, 55.5%, 71.4% and 60.0% disagreement voiced by the respondents from the PPPRA, NA, CS, and TU respectively.

The disagreement from the PPPRA is not surprising given that the DPR has dual mandates (to regulate the upstream and the downstream sector), and so interference may be experienced in their decision-making process. In the same vein, the disagreements from the NA respondents are most likely due to the fact that they are the highest law-making body in the country and are well informed about the DPR legal mandates, or they are of the view that the executive arm of the government is interfering in the decisions made by the DPR. Similarly, the disagreement expressed by the CS and TU might be associated with the fact that a non-governmental organisation that protects public interest could be of the opinion that, over the years, all corruption allegations in the sector were usually linked to government officials, the powerful elite and their associates (Petroleum Task Force, 2012). Hence, they believed that the DPR regulatory decisions are affected by outside influence.

The disagreement is consistent with the assertion made by the Deputy Director of the DPR, which shows that the NA should make enabling laws that will render the Department sufficiently autonomous to make regulatory decisions independently (*Premium times*, 22 November, 2012). Given the evidence above, it could be argued that the Department of Petroleum Resources is not free to make independent

decisions relating to the regulations of the downstream petroleum sector. Hence, this may negatively affect the general public. Indeed, the lack of power of the regulatory agencies to make independent resolutions may threaten the stability of the sector and lead to systemic problems (OECD, 1999).

6.4.1.1.3 The Department of Petroleum Resources effectively reprimands regulated companies that do not adhere to regulations.

The main reason for the emergence of regulatory agencies is the need to protect the general public from unexpected exploitation by private entities. Since, the majority of private companies are profit making bodies, they are likely to use any avenue to maximise their investments. For such reasons, Quintyn and Kyprou (2007) and Reed (2002) believe that empowering regulatory agencies to reprimand regulated entities that violate existing regulations is necessary.

From the descriptive statistics presented in Table 6.4, out of the 102 responses, 46 (45.1%) respondents strongly disagreed that the DPR effectively reprimands regulated companies that do not adhere to regulations, whilst 44 respondents (43.1%) strongly agreed with the statements and 12 (11.8%) were neutral. The overall mean and median scores (3.11 and 3.00) are aligning towards neutral. To ascertain these differences, a Mann-Whitney test was run to determine if significant differences exist between the respondent groups.

From Table 6.5, it is clear that the DPR and PEF differed from five groups: the PPPRA, NEITI, NA, CS, and TU. The cross-tabulation test revealed that 69.3%, 90.9%, 66.6%, 60.0% and 62.5% of the respondents from the DPR, PEF, PPMC, MOMC and IOMC respectively strongly agreed that the DPR effectively reprimands regulated companies that do not adhere to regulations. Although the DPR and PEF act as regulatory agencies in the sector it can be argued that they effectively reprimand regulated companies, considering that, at present, indicted oil marketers are now facing trial in the court, while others are in the custody of the Economic and Financial Crimes Commission (EFCC) (*Premium times*, 22 November 2012). The PPMC, as a government that owns the marketing agency responsible for ensuring, among other things, the availability of petroleum products to sustain industries and domestic use, believes that marking companies (MOMC and IOMC) now distribute

most of products to the end users appropriately so there is no need for the DPR to take action against them (PPMC, 2012).

Contrary to the agreed perception, 81.8%, 80.0%, 77.8%, 71.5% and 60.0% of the respondents from the PPPRA, NEITI, NA, CS and TU respectively disagreed that the DPR effectively reprimands regulated companies that do not adhere to regulations. The PPPRA's disagreement could be due to the overlapping functions between them and the DPR (Nuhu-Koko, 2008). The PPPRA may argue that over the years of DPR existence not one company had been admonished, despite malpractices in the downstream sector, until the PPPRA was established (Subsidy Probe Report, 2012). Similarly, the disagreements voiced by the NEITI, NA, CS and TU are not surprising because the central aim of these four groups is to represent public interests. Thus, it was determined during the oil subsidy probe conducted by the NA that the federal government and regulatory agencies were reluctant to prosecute or revoke the licenses of oil-marketing companies engaged in sharp practices at the expense of the general public (Subsidy Probe Report, 2012). This assertion may have informed the disagreement of the respondents from the NEITI, NA, CS and TU. From the evidence above it is evident that the DPR does not reprimand companies effectively.

6.4.1.1.4 The Department of Petroleum Resources regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.

As long as outside interference is possible in the regulatory process then regulatory governance cannot be effective (Kaufmann et al., 2003), hence the importance of this question. It is imperative for regulatory agencies to be empowered to make regulatory decisions so that no other body, arm of government, powerful elite or powerful corporation can overrule their resolutions, except a court of competent jurisdiction.

From Table 6.4 it can be seen that the descriptive statistic test disclosed that out of the 102 respondents, 34 responses (33.9%) strongly agreed with the statement, whereas 32 (31.5%) were neutral. While 36 (35.3%) of the respondents strongly disagreed with the statement, overall the respondents were neutral, as indicated by the mean and median scores, both 3.00.

The Mann-Whitney test results in Table 6.5 show that the DPR and PEF's views varied from those of the NEITI, NA, MOMC, IOMC, CS and TU. The cross-tabulation disclosed that 69.3% and 72.7% of the respondents from the DPR and PEF strongly agreed that the DPR's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel, while 44.4% of the respondents from the NA took a neutral position. On the other hand, 80.0%, 40.0%, 50.0%, 57.1% and 50.0% of the respondents from the NEITI, NA, MOMC, IOMC, CS and TU respectively strongly disagreed with the statement.

These disagreements are consistent with the assertion that the presidency interferes with the DPR regulatory decision[9] (Ifeanyi, 2012). This may have informed the decision of the NEITI, NA, MOMC, IOMC, CS and TU to disagree that the DPR regulatory decisions are only overruled by a court of jurisdiction or pre-established appellate panel. Therefore, it is evident that the decision of the DPR could also be overruled by other bodies.

6.4.1.1.5 The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel

A regulatory governance framework emphasises the importance of independence of regulatory agencies in terms of recruitment, deployment, promotion and discipline of the agencies' personnel. Regulatory agencies are responsible for exercising autonomous authority over certain areas of human activity in a regulatory or supervisory capacity (OECD, 2002). Therefore, the autonomy to recruit, deploy, promote and discipline its own staff is vital in achieving regulatory objectives, and this informed the decision to ask the above statement.

In Table 6.4 the descriptive statistics test illustrates that out of the 102 respondents, 59 (57.8%) were strongly in agreement. Also, 42 (41.2%) of the respondents strongly disagreed with the statement. Only one respondent took a neutral position. The

[9] ''The current status of the DPR vis-à-vis the publicly known money-spinning NNPC could best be described as blurred and at worst obscured. The agency has been deeply or rather criminally buried into the bureaucratic day-to-day life of Presidency, a situation that has given rise to the plethora of fraud scandals especially in the award of oil blocs and collection and management of license fees and signature bonus'' (Ifeanyi, 2012).

overall mean and median scores of 3.26 and 4.00 suggest that the respondents are in agreement.

Table 6.5 discloses the differences among the respondent groups. The cross-tabulation test revealed that 69.3%, 63.6%, 100.0%, 77.0%, 60.0% and 66.6% of the respondents from the DPR, PPPRA, PEF, PPMC, NEITI and NA respectively strongly agree that the DPR independently recruits, deploys, promotes and disciplines its own personnel. On the other hand, 60.0%, 62.5%, 85.7% and 80.0% of the respondents from the MOMC, IOMC, CS and TU respectively disagree.

Nevertheless, the disagreements may have come about because over the year DPR officials have been complaining that the agency lacks the necessary manpower to carry out its regulatory responsibility (Ehinomen and Adeleke, 2012). According to the DPR Controller in charge of Nasarawa and Benue State, the department is so understaffed that, at present, the office has only one operational driver covering two states (*Premium times*, 2012). It is likely that the MOMC, IOMC, CS and TU disagreed based on the evidence above.

It is also possible that the agreements voiced by the DPR, PPPRA, PEF, PPMC, NEITI and NA could be because the regulatory agencies' board members are part and parcel of the agencies, and intervention of the board members in the recruitment, deployment, promotion and discipline of personnel is not regarded as outside interference. However, since six respondent groups agreed with the statement and the median score is 4.0, this would indicate agreement. Hence, it can be said that the DPR recruits, deploys, promotes and disciplines its personnel independently.

6.4.1.2 Perceptions relating to the regulatory independence in setting Petroleum Product Pricing

In order to test the independence of the PPPRA in regulatory governance five variables were developed. This is important given that PPPRA is responsible for regulating the price of petroleum products in the downstream sector. As guided by the Public Interest Theory of regulation and framework, five statements are developed to enable the examination of the PPPRA independence in relation to regulatory governance.

Table 6.6: Descriptive frequencies relating to the Petroleum Product Pricing Regulatory Agency's independence

Statements	M	MD	SD	D	N	A	SA	TR
a) The Petroleum Products Pricing Regulatory Agency has financial autonomy to determine its own budgets.	3.00	3.00	22 (21.6)	17 (16.7)	19 (18.6)	27 (26.5)	17 (16.7)	102 (100)
b) The Petroleum Products Pricing Regulatory Agency is free to make independent decisions relating to the pricing of petroleum products in the downstream sector.	3.20	3.00	5 (4.9)	28 (27.5)	22 (21.6)	36 (35.3)	11 (10.8)	102 (100)
c) The Petroleum Products Pricing Regulatory Agency effectively reprimands regulated companies that do not adhere to the pricing regulations.	3.31	4.00	7 (6.9)	23 (22.5)	19 (18.6)	37 (36.3)	16 (15.7)	102 (100)
d) The Petroleum Products Pricing Regulatory Agency regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.	3.11	3.00	5 (4.9)	25 (24.5)	34 (33.3)	30 (29.4)	8 (7.8)	102 (100)
e) The Petroleum Products Pricing Regulatory Agency independently recruits, deploys, promotes and disciplines its own personnel.	3.33	4.00	6 (5.9)	21 (20.6)	23 (22.5)	37 (36.3)	15 (14.7)	102 (100)

Notes: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses.
(b) Figures in brackets are percentages.

Table 6.6 reveals that the descriptive frequencies and the percentages representing respondent opinions regarding the PPPRA, and illustrates that it has no substantive independence in regulatory governance. In all, 102 responses were recorded for each of the five statements.

6.4.1.2.1 The Petroleum Products Pricing Regulatory Agency has financial autonomy to determine its own budgets.

This section examines the respondents' view regarding the PPRRA's financial autonomy. The motive behind asking the question is to discover whether the PPPRA has the authority to decide its own budget. Financial autonomy is regarded as a vital

aspect which provides regulatory agencies with the confidence to discharge its regulatory responsibility without hindrance (Crocker and Masten, 1996).

Table 6.6 shows that 44 respondents, representing (43.2%) of the total respondents, strongly agreed that the PPPRA have the financial autonomy to determine its own budget. In contrast, 39 respondents (38.8%) strongly disagreed with the statement, while 19 respondents (18.6%) were neutral. The mean and median scores were equal (3.00), suggesting that the respondents are in a neutral position. On discovering these differences, a Mann-Whitney test was run to determine the actual differences that exist among the respondent groups.

From Table 6.7 it can be seen that the NA's view differed from that of seven groups: the DPR, PEF, PPPRA, PPMC, TU, MOMC, and IOMC. The position of the NEITI disagreed with four groups: the DPR, PPPRA, TU, and MOMC. The cross-tabulation test revealed that 61.6%, 81.8%, 50.0% and 60.0% of the respondents from DPR, PEF, MOMC, and TU respectively agreed that the PPPRA has the financial autonomy to determine its own budgets. In contrast, 53.9%, 60.0%, 88.9% and 50.0%, of the respondents from the PPMC, NEITI, NA, IOMC respectively disagreed with the statement. Surprisingly, the responses from the respondents of the PPPRA were equal (i.e. 45.5% of agreed and 45% disagreed).

Table 6.7: Mann-Whitney test relating to the Petroleum Product Pricing Regulatory Agency independence in regulatory governance

a) The Petroleum Products Pricing Regulatory Agency has financial autonomy to determine its own budgets.							
Groups	**D_1**	**P_2**	**P_1**	**P_3**	**T_1**	**M_1**	**I_1**
N_2	.000	.000	.049	.009	.001	.004	.014
N_1	.001	.000			.003	.006	
b) The Petroleum Products Pricing Regulatory Agency is free to make independent decisions relating to the pricing of petroleum products in the downstream sector.							
Groups	**D_1**	**T_1**	**P_1**	**P_2**	**P_3**	**I_1**	**C_1**	**N_2**
N_1	.000	.000	.009	.001	.000	.005	.001	.003
c) The Petroleum Products Pricing Regulatory Agency effectively reprimands regulated companies that do not adhere to the pricing regulations.							
Groups	**D_1**	**P_1**	**N_2**	**M_1**	**T_1**		
N_1	.002	.007	.020	.003	.018		
C_1	.015	.031		.017			
d) The Petroleum Products Pricing Regulatory Agency regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.							
Groups	**D_1**	**P_2**					
M_1	.007	.013					
N_1	.020	.045					

e) The Petroleum Products Pricing Regulatory Agency independently recruits, deploys, promotes and disciplines its own personnel.					
Groups	**D_1**	**P_2**	**P_1**	**P_3**	**N_2**
N_1	.000	.000	.027	.034	
I_1	.033				.001
C_1	.003	.003			.006
T_1	.002	.003			

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

However, the disagreements voiced by the PPMC, NEITI, NA and IOMC are in line with the assertion that Nigeria's downstream regulatory agencies' failure to regulate the sector effectively is a result of poor government funding (Okpanachi, 2011). Oseni (2013) argued that Nigeria's downstream regulatory agencies depend largely on government budgets to carry out their day to day operations, which negatively affects the agencies' performance.

As stated earlier, the respondents from the PPPRA were neutral in their views. One possible reason for this could be related to the element of interference within the agencies' funds[10]. Given the evidence above, it is appropriate to argue that the PPPRA lacks the financial autonomy to determine its own budgets.

6.4.1.2.2 The Petroleum Product Pricing Regulatory Agency is free to make independent decisions relating to the pricing of petroleum products in the downstream sector.

The success of any regulation can only be achieved by making the regulatory agency sovereign from outside influence. This is important, given that the decision-making process, when independently accomplished by regulators, enhances the regulatory quality (OECD, 2000; Rossi, 1999). This statement was therefore developed to seek the perception of the respondents on whether the PPPRA is free to make independent decisions relating to the pricing of petroleum products in the downstream sector.

[10] As reported in the national dailies, a federal minister was indicted for petroleum subsidy fraud amounting to N2, 755,646,744. 04 (*This day*, Monday 26 November, 2012).

As shown in Table 6.6, the descriptive statistics test revealed that 47 respondents (46.1%) strongly agreed that the PPPRA is free to make independent decisions relating to the pricing of petroleum products in the downstream sector. Only 33 respondents (32.4%) strongly disagreed with the statement. On average, the mean and median scores (3.20 and 3.00) indicated agreement. Based on these views Mann-Whitney tests were run.

The Mann-Whitney test disclosed that the views of the respondents from the NEITI differed with respect to eight groups: the DPR, TU, PPPRA, PEF, PPMC, IOMC, CS and NA (see Table 6.7). Interestingly, a cross-tabulation test revealed that 100% and 40.0% of the respondents from the NEITI and MOMC respectively disagreed with the statement. On the other hand, 44.4% and 57.1% of the respondents from the NA and CS took a neutral position, whereas 69.3%, 45.5%, 45.5%, 69.2% and 90.0% of the respondents from the DPR, PPPRA, PEF, PPMC and TU respectively agreed with the statement. The perceptions of the IOMC respondents were equal (37.5%) for both agreement and disagreement.

The agreement voiced by these five groups (the DPR, PPPRA, PEF, PPMC and TU) are in line with the findings of Quintyn et al. (2003), that the freedom to make decisions represents the level of the agency's independence from government authorities. From the above findings, the position of the five groups that agreed could be accurate because they are more informed on this subject than the other groups. Thus, it could be argued that the PPPRA is free to make independent decisions relating to the pricing of petroleum products in the downstream sector.

6.4.1.2.3 The Petroleum Product Pricing Regulatory Agency effectively sanctions regulated companies that do not adhere to the pricing regulations

Large and Andrew (2003) believe that for regulations to be effective and efficient, regulators need have a clear mandate to effectively sanction regulated companies engaged in improper or prohibited conducts. It is therefore crucial to seek the opinion of the stakeholders in this study on whether the PPPRA effectively reprimands regulated companies that do not adhere to pricing regulations.

The descriptive statistics test results in Table 6.6 reveal that of the 102 respondents, 53 strongly agreed that the PPPRA effectively sanctions regulated companies that do not adhere to pricing regulations, 30 strongly disagreed, and 19 were neutral with respect to the statement. This revelation emphasises the importance of testing the above statement to discover the actual differences between the respondent groups.

Table 6.7 shows the Mann-Whitney test results. NEITI's view differed from five groups: the DPR, PPPRA, NA, MOMC, and TU. The responses given by the CS varied from those of the DPR, PPPRA and MOMC. However, from the cross-tabulation test it is evident that only two groups were in disagreement: the NEITI and CS, with 70.0% and 57.1% respectively. Five groups (the DPR, PPPRA, NA, MOMC and TU) agreed that the PPPRA does effectively sanction regulated companies that do not adhere to pricing regulations.

The agreement of these five groups could be related to the suspension of oil marketing companies from their business, pending their trial in court and other investigations,[11] after the discovery of malpractice regarding a subsidy probe ordered by the Federal government (*Daily Trust*, 2012).

From the analysis above the agreements opined could be more appropriate given that the DPR, PPPRA, NA, MOMC and TU are in a better position to be more informed than the other groups. In addition, the overall mean and median scores of 3.31 and 4.0 suggest agreement with the statement that the PPPRA effectively sanctions regulated companies that do not adhere to pricing regulations.

6.4.1.2.4 The Petroleum Product Pricing Regulatory Agency regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel

It is vital for the regulatory authorities to have legal powers regarding regulatory decisions that cannot be overruled by other bodies, except a court of competent jurisdiction or a pre-established appellate panel (Kaufmann et al., 2003). In view of the importance of regulatory decision-making, the statement was developed and the

[11] As reported by the federal ministry of finance: '25 oil marketers were listed as having been recommended for criminal investigation' (Federal ministry of finance, 2012).

respondents were asked their perceptions regarding the PPPRA regulatory decisions and whether they are only overruled by a court of jurisdiction or pre-established appellate panel alone.

Table 6.6 shows that of the 102 responses recorded 38 of the respondents strongly agreed that the PPPRA regulatory decisions are only overruled by a court of jurisdiction or pre-established appellate panel, 35 were neutral, and 30 strongly disagreed with the statement. The overall mean and median score of 3.11 and 3.00 tend towards disagreement.

The Mann-Whitney tests (Table 6.7) revealed that the MOMC and NEITI are of the same opinion, which contradicts that of the DPR and PEF. As indicated by the cross-tabulation test, 70.0% and 50.0% of the respondents from the MOMC and NEITI respectively disagreed with the statement that PPPRA regulatory decisions are only overruled by a court of jurisdiction or pre-established appellate panel, 61.5% of the DPR respondents agreed with the statement, while 63.6% of the respondents from the PEF were neutral.

Nevertheless, various groups accused the regulatory agencies of lacking the moral authority to make their own decisions. For example, the NA reproached government officials for their involvement in the subsidy regime (Subsidy Report, 2012). This is in line with the disagreement voiced by the respondents of the MOMC and NEITI. Their perception could be appropriate because the MOMC and NEITI are more likely to have better information on this subject than the DPR who agreed with the statement. Therefore, it is correct to argue that the PPPRA regulatory decisions can be overruled by bodies other than a court of competent jurisdiction or a pre-established appellate panel.

6.4.1.2.5 The Petroleum Product Pricing Regulatory Agency independently recruits, deploys, promotes and disciplines its own personnel

Regulatory agencies should have the power to recruit competent staff in order to achieve their overall policy objectives. Therefore, the regulatory agencies' autonomy to recruit, deploy, promote and discipline their own staff is fundamental in attaining

regulatory governance (Levine et al., 2005; OECD, 2000). Thus seeking respondents' perceptions in relation to the above statement is imperative.

Table 6.6 shows that out of the 102 responses recorded, 52 (51.0%) of the respondents were in agreement with the statement that the PPPRA independently recruits, deploys, promotes and disciplines its own personnel. In contrast, 27 (26.5%) were in disagreement while 23 (22.3%) took a neutral position.

As set out in Table 6.7, the Mann-Whitney test shows that the NEITI's perception varied from that of the DPR, PEF, PPPRA and PPMC. Similarly, the opinion of the respondents from the IOMC differed from that of the DPR and NA. The CS position contradicts that of the DPR, PEF and NA. Moreover, the TU's stance disagreed with that of the DPR and PEF. Interestingly, five respondent groups: the DPR, PEF, PPPRA, PPMC, and NA were in agreement with overwhelming percentages of 77.0%, 54.6%, 90.0%, 69.2% and 77.8% respectively. In contrast, 62.5% and 57.1% of the respondents from the IOMC and the CS disagreed that the PPPRA independently recruits, deploys, promotes and disciplines its own personnel. On the other hand, 60.0% of the respondents from NEITI were neutral, while there was 40.0% of disagreement and 40.0% of neutrality from the respondents of the TU.

It is evident that the PPPRA's 2003 Act confers the agency with powers to recruit, discipline and promote its own staff. Indeed, Section (9) subsection (1-2) of the PPPRA Act states that 'The Board shall appoint for the Agency such officers and other employees as it may, from time to time, deem necessary for the purposes of the Agency' (PPPRA Act, 2003). Therefore, the groups that agreed might have capitalised their argument based on the provision of the PPPRA Act. Although the provision of the Act is regarded as theoretical, the agreement voiced by the PPPRA could be reliable given that it is in a better position to know whether it handles issues relating to the activities of its staff independently. Furthermore, the mean and mean and median scores of 3.33 and 4.0 indicate that the respondents overwhelmingly agreed that the PPPRA independently recruits, deploys, promotes and disciplines its own personnel.

6.4.1.3 Perceptions relating to the Petroleum Equalization Fund regulatory independence in good regulatory governance;

As noted in Section 3.4.3, the PEF is another regulatory agency, mandated to equalise the price of petroleum products in Nigeria's downstream petroleum sector. Its aim is to regulate and unify the price throughout the country in the interest of the general public. Since the agency is responsible for protecting the interest of citizens by regulating the activities of companies, the adoption of the Public Interest Theory of regulation is suitable for this research. Guided by the Public Interest Theory of regulation as a theoretical framework and a regulatory governance framework in this study, five statements were developed relating to the Petroleum Equalisation Fund substantive independence in regulatory governance.

Table 6.8 shows the frequencies and percentages of respondent views relating to the PEF's independence. There are 102 responses recorded in each of the five statements.

Table 6.8 Descriptive frequencies relating to the Petroleum Equalisation Fund's independence

Statements	M	MD	SD	D	N	A	SA	TR
a) The Petroleum Equalisation Fund has financial autonomy to determine its own budgets.	3.02	3.00	10 (9.8)	30 (29.4)	20 (19.6)	32 (31.4)	10 (9.8)	102 (100)
b) The Petroleum Equalisation Fund is free to make independent decisions relating to price equalisation in the downstream petroleum sector.	3.06	3.00	9 (8.8)	27 (26.5)	23 (22.5)	35 (34.3)	8 (7.8)	102 (100)
c) The Petroleum Equalisation Fund effectively reprimands regulated companies that do not adhere to price equalisation policy.	3.20	3.00	5 (4.9)	20 (19.6)	36 (35.3)	32 (31.4)	9 (8.8)	102 (100)
d) The Petroleum Equalisation Fund's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.	3.19	3.00	6 (5.9)	23 (22.5)	28 (27.5)	36 (35.3)	9 (8.8)	102 (100)
e) The Petroleum Equalisation Fund independently recruits, deploys, promotes and disciplines its own personnel.	3.52	4.00	5 (4.9)	15 (14.7)	18 (17.6)	50 (49.0)	14 (13.7)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses
(b) Figures in brackets are percentages

6.4.1.3.1 The Petroleum Equalization Fund has the financial autonomy to determine its own budgets.

This section investigates the respondents' views in relation to the PEF's financial autonomy. The purpose of asking this question is to ascertain whether the PEF has the power to make decisions regarding its own budgets and finances, which is an important aspect that encourages regulatory quality (Litan et al., 2002).

As shown in Table 6.8 the descriptive statistic run revealed that the overall mean and median scores of 3.02 and 3.00 indicate that the respondents are neutral to the statement. Out of the 102 responses, 43 (41.2%) of the total respondents strongly agreed that the PEF has the financial autonomy to determine its own budgets. In contrast, 40 (39.2%) strongly disagreed with the statement while 20 (19.6%) took a neutral position. These variations resulted in a Mann-Whitney test being run to determine whether significant differences exist between the respondent groups.

Table 6.9: Mann-Whitney test relating to the statement that the Petroleum Equalisation Fund has no substantive independence in regulatory governance

a) The Petroleum Equalisation Fund has the financial autonomy to determine its own budgets.						
Groups	**D_1**	**P_1**	**P_2**	**P_3**	**C_1**	**M_1**
N_2	.003	.002		.045	.007	.048
N_1	.008	.018	.013		.032	
T_1	.007	.028			.044	
b) The Petroleum Equalisation Fund is free to make independent decisions relating to price equalisation in the downstream petroleum sector.						
Groups		**P_2**	**P_3**	**N_1**	**N_2**	**M_1**
D_1		.036	.026	.008	.003	.004
I_1					.035	
C_1					.025	
T_1					.025	
c) The Petroleum Equalisation Fund effectively reprimands regulated companies that do not adhere to price equalisation policy.						
Groups	**P_1**	**P_2**	**P_3**	**N_1**	**T_1**	**N_2**
D_1	.008	.000	.003	.001	.005	
P_2	.026					.009
M_1		.003	.044	.015		
d) The Petroleum Equalisation Fund's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.						
Groups	**P_1**	**M**	**P_3**	**N_1**	**I_1**	**N_2**	**T_1**
D_1	.005	.000	.029	.000	.003	.025	.012
e) The Petroleum Equalisation Fund independently recruits, deploys, promotes and disciplines its own personnel.						
Groups		**P_1**	**N_1**	**I_1**	**C_1**	**T_1**
D_1		.010	.003	.011	.004	.003
P_1					.012	
N_2					.015	

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

Table 6.9 shows that the NA's view differed from that of five groups: the DPR, PPPRA, PPMC, CS and MOMC. Moreover, the NEITI's opinion varies from the DPR, PPPRA, PEF and CS. Similarly, the TU's position differs from that of the DPR, PPPRA and CS. The cross-tabulation test disclosed that 84.6%, 54.6%, 38.5%, 45.5%, 40.0% and 57.2% of the respondents from the DPR, PEF, PPPC, PPPRA, MOMC and CS respectively agreed that the PEF has the financial autonomy to determine its own budgets. The agreements might be a result of the PEF Act (1975) which stated that the agency shall: '(b) Determine the amount of reimbursement due to any oil marketing company which has suffered a loss as a result of the operation of the enactment as aforesaid; (c) The payment of all disbursements is authorised under, or by virtue of this Act' (PEF Act, 1975). This argument is not substantial because it is based on theory not practice.

In contrast, 70.0%, 88.9% and 60.0% of the respondents from the NEITI, NA and TU respectively disagreed with the assertion. The disagreements of the respondents from NA, NEITI and TU could be appropriate, given that recently the House of Representatives Committee on the downstream petroleum sector criticised the huge financial claims paid to oil marketers by the PEF (NA, 2012). Moreover, the Ministry of Finance declared that all payments relating to price equalisation were to be suspended until further notice (Ministry of Finance, 2012). Hence, the disagreements could be more appropriate because the NA, which disagreed with statement, is in a better position to be well informed than the other groups, considering that the PEF-determined budgets are based on its laws. Therefore, it could be argued that the PEF lacks financial autonomy.

6.4.1.3.2 The Petroleum Equalisation Fund is free to make independent decisions relating to price equalisation in the downstream petroleum sector.

Attaining regulatory goals relies solely on the independence of agencies and their ability to make regulatory decisions without undue intervention (Lodge and Wegrich, 2009; OECD, 2002). In this regard it is necessary to determine the perception of the

respondents on whether the PEF is free to make independent decisions relating to the pricing of petroleum products in the downstream sector. In Table 6.8 the descriptive statistics test shows that out of the 102 responses recorded, 42.3% of the respondents strongly agreed, 35.3% of the respondents strongly disagreed and 22.5% of the respondents were neutral. The overall mean and median (3.02 and 3.00) indicate that the respondents were neutral. A Mann-Whitney test was run to ascertain the differences among the groups.

From Table 6.9 it is clear that the DPR's position varies from that of the PEF, PPMC, NEITI, NA and MOMC. In the same vein, the opinion of the IOMC, CS and TU differs from that of the NA. The cross-tabulation test shows that 69.3%, 45.5%, 62.5% 57.2% and 60.0% of the respondents from the DPR, PPPRA, IOMC, CS and TU respectively agreed that the PEF is free to make independent decisions relating to price equalisation in the downstream petroleum sector. In contrast, 54.6%, 46.2%, 50.0%, 66.7% and 40.0% of the respondents from the PEF, PPMC, NEITI, NA and MOMC respectively disagreed with the statement.

From the above findings it is difficult to state which way the groups are inclined. It is perhaps logical to accept the view of the respondent groups perceived to be more knowledgeable. But the PEF itself disagreed with the statement and it is likely that they are more knowledgeable than any other group. Likewise, the PPMC, which is a petroleum distribution company, may also be more knowledgeable than the other groups because it is the agency that distributes the petroleum products to other parts of the country; the NEITI may also be well informed because they have the privilege of auditing all oil and gas activities around the country; the NA may be more conversant than other groups since they are the highest law-making body in the country; and the MOMC are in the best position to give an informed opinion because they are a major marketing company and responsible for selling and distributing petroleum products to the nation.

There is strong evidence that the five disagreeing groups, including the PEF, could be more knowledgeable then the other five that agreed with the statement. Hence, it is appropriate to argue that the PEF lacks the independence to make decisions relating to price equalisation.

6.4.1.3.3 The Petroleum Equalisation Fund effectively reprimands regulated companies that do not adhere to the price equalisation policy.

The effectiveness of regulatory governance depends largely on the mandate given to the regulators, including the power to sanction companies (Large and Andrew, 2003); hence the relevance of seeking the views of the respondents on whether the PEF effectively reprimands regulated companies that do not adhere to pricing regulations. As can be seen from Table 6.8, the descriptive statistic test shows that out of the 102 total responses recorded 41 of the respondents (40.2%) strongly agreed with the statement and 36 (35.3%) were neutral. Only 25 of the respondents (24.5%) were in disagreement. The overall mean and median scores of 3.20 and 3.0 align towards agreement.

Table 6.9 illustrates that the DPR's view differs from that of the PPPRA, PEF, PPMC, NEITI and NA. The position of the PEF varies from that of the PPPRA and NA, and the MOMC's opinion contradicts that of the PEF, PPMC and NEITI. The cross-tabulation reveals that 84.6%, 55.5% and 70.0% of the respondents from the DPR, NA and MOMC respectively were in agreement. On the other hand, 45.5%, 70.0% and 50.0% of the respondents from PPPRA, NEITI, and TU respectively were neutral. Only two groups disagreed (i.e. the PEF and PPMC with 54.5% and 38.5% of responses).

At present a number of indicted oil marketers are facing trial in court and others are in the custody of the EFCC or suspended pending investigation (*Premium times,* 22 November 2012). This could be the reason for the agreement voiced by respondents in the majority of groups and the neutral position taken by the above three groups. As the PEF, which is in the best position to be the most knowledgeable, itself disagreed with the statement, it is appropriate to say that the PEF lacks the power to effectively sanction regulated companies that do not adhere to price equalisation policy.

6.4.1.3.4 The Petroleum Equalisation Fund's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.

Respondent views were sought regarding the PEF's regulatory decisions in order to determine whether their decisions are only overruled by a court of jurisdiction or a

pre-established appellate panel. One of the main reasons for asking this question is that good regulatory governance cannot be attained until regulatory agencies are empowered to make decisions that can only be overthrown by a court of jurisdiction (Kaufmann et al., 2003). In Table 6.8 data from the descriptive statistic test show that out of the 102 responses recorded, 45 respondents (44.2%) were in agreement that the PEF's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel. In contrast, 29 (28.4%) strongly disagreed, whereas 28 (27.5%) held a neutral position. The overall mean and median scores of 3.19 and 3.0 indicate that the respondents tend towards agreement.

From Table 6.9 it is evident that the Mann-Whitney test reveals that significant differences exist between the DPR opinions and seven other groups: the PPPRA, MOMC, PPMC, NEITI, IOMC, NA and TU. The cross-tabulation tests show that three respondent groups were in agreement with 92.3%, 53.9% and 50.0% of the DPR, PPMC and TU groups respectively. On the other hand, 54.5% and 50.0% of the respondents from the PEF and the IOMC took a neutral position, and 60.0%, 55.5% and 70.0% of the respondents from the NEITI, NA and the MOMC respectively disagreed. The respondents from the PPPRA were divided equally and registered 45.5% both for agreement and disagreement.

Based on these findings, the groups that disagreed could be said to be more knowledgeable than the other groups because the NEITI, during the course of its auditing assignment, would have been made aware if the PEF's decision was only overruled by a court of jurisdiction; the NA is the highest law-making body with powers of oversight and thus it may also be in a good position to ascertain whether the PEF's decision can only be overruled by a court or a pre-established appellate panel; and the MOMC, being regulated companies, are in a better position to determine whether the PEF's decision can only be overridden by a court. The PEF itself is indecisive in relation to the statement. Thus, it is correct to argue that the decisions made by the PEF can be overridden by other bodies other than a court of jurisdiction or a pre-established appellate panel.

6.4.1.3.5 The Petroleum Equalisation Fund independently recruits, deploys, promotes and disciplines its own personnel.

Interference in the recruitment process may affect the agency's credibility and by extension it can affect the agency's regulatory performance (OECD, 2002; Ahmad, 1994). Hence it is necessary to seek respondent views on whether the PEF independently recruits, deploys, promotes and disciplines its own personnel. The data in Table 6.8 represents the respondents' descriptive statistics. Out of the 102 recorded responses, 64 (62.7%) of respondents strongly agreed with the statement, 20 (19.6%) strongly disagreed and 18 (17.6%) held a neutral position. On average the mean and the median (3.52 and 4.00) indicate that the respondents were in agreement.

As disclosed in Table 6.9, the DPR's perception differs from that of the PPPRA, NEITI, IOMC, CS and TU. The opinion of the CS varies from that of the PPPRA and the NA. Cross-tabulation discloses that 71.4% of the respondents from the CS disagreed with the statement and the IOMC respondents were equally divided between agreement and disagreement, with 37.5% each. On the other hand, 100%, 72.7%, 50.0%, 77.8% and 50.0% of the respondents of the DPR, PPPRA, NEITI, NA, and TU respectively agreed that the PEF independently recruits, deploys, promotes and disciplines its own personnel.

The position of the five respondent groups that agreed could be appropriate given that all the groups have a direct relationship with the PEF. Hence, this would indicate that the PEF recruits, deploys, promotes and disciplines its own personnel independently.

On a general note, out of the five statements developed in relation to the DPR regulatory independence only one was agreed by the respondents: there was strong disagreement with four of the statements. This clearly suggests that the DPR is lacking adequate independence arrangements to enable it to conduct its regulatory responsibility as one of the crucial mechanisms for achieving good regulatory governance and public interest. Stern and Holder (1999) posited that to maintain the credibility of regulatory agencies and provide good regulatory governance, the regulators should have the autonomy to make decisions freely, without interference.

Since the respondents disagreed with four statements HO_1, which states that: *HO_1- There are inadequate independence arrangements in place to enable Nigeria's downstream regulatory agencies to ensure good regulatory governance practice in the sector*, is accepted in relation to DPR independence.

In relation to PPPRA's regulatory independence, out of the five questions asked the respondents disagreed with three questions and agreed with two. The findings disclose that the PPPRA lacks the financial autonomy to determine its own budgets, its decision can be overruled by other bodies other than just the Court of Competent Jurisdiction, and its lacks the power to make independent decisions in relation to petroleum pricing. On the other hand, the findings also reveal that the PPPRA has power to conduct its own recruitment, deployment, promotion, discipline and is able to sanction companies. Therefore, the research sub-hypothesis HO_1 is accepted. At the same time the participant responses indicate that significant improvements are required to enable the PPPRA to discharge its duties.

The findings relating to the PEF's independence suggest that it lacks the autonomy to carry out its regulatory duties effectively. This was vindicated by the five statements that measured the level of PEF regulatory independence. It was discovered that the PEF has the power to recruit, promote, deploy and discipline its staff independently, but it lacks financial autonomy, the freedom to make decisions relating to price equalisation and the power to effectively reprimand companies. Moreover, its decisions can be overruled by other bodies. Hence, the research sub-hypothesis HO_1 is accepted.

Table 6.10: Summary of the number of differences between groups in relation to the Nigeria's downstream regulatory independence (this summarises table 6.5, 6.7 and 6.9 above)

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1	Total
D_1	**n/a**	4	4	3	12	6	3	4	5	7	**48**
P_1	4	**n/a**	4	2	5	11	1	1	11	1	**40**
P_2	4	4	**n/a**	0	8	6	3	4	10	10	**49**
P_3	3	2	0	**n/a**	3	3	5	0	0	0	**16**
N_1	12	5	8	3	**n/a**	2	4	3	2	3	**42**
N_2	6	11	6	3	2	**n/a**	0	5	3	1	**37**
M_1	3	1	3	5	4	0	**n/a**	0	4	2	**22**
I_1	4	1	4	0	3	5	0	**n/a**	3	2	**22**

C_1	5	11	10	0	2	3	4	3	**n/a**	1	**39**
T_1	7	1	10	0	3	1	2	2	1	**n/a**	**27**

Note: D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

N/A: Not Applicable

Table 6.10 records the number of times significant differences existed between the groups relating to the regulatory independence of the Nigeria's downstream regulatory agencies. The PEF significantly differed 49 times with other groups. Similarly, DPR differed significantly with other groups 48 times, whereas NEITI recorded 42 significant differences with other groups. One of the important reasons for identifying these significant differences is that it helps to disclose the dysfunctional features of the interface between the groups, which may serve as guide for improving the regulatory independence in downstream petroleum sector of Nigeria.

In explicit term, the overall findings showed that the status of regulatory governance practice in Nigeria's downstream petroleum sector in relation to independence is inadequate. Research sub-hypothesis HO_1 which states that: *HO_1-There are inadequate independence arrangements in place to enable Nigeria's downstream regulatory agencies to ensure good regulatory governance practice in the sector* is accepted. For example DPR, which plays significant role in monitoring and regulating the activities in the downstream petroleum sector, is discovered not to have autonomy. This calls for the need for effective and efficient independence arrangements so that the regulatory agencies can discharge their regulatory mandates independently for the benefit of citizens.

6.4.2 Regulatory accountability

This section discusses and analyses the second sub-hypothesis relating to the accountability of Nigeria's downstream regulatory agencies. Accountability practice is another mechanism of good regulatory governance system. It is essential for a regulatory agency to justify its actions against the background of the mandate it has been given (Afrika and Bachmann, 2011; OECD, 2000). The hypothesis seeks respondent opinions regarding the accountability practices of the regulatory agencies

of Nigeria's downstream petroleum sector. The following section discusses the main research hypothesis HO_2.

HO_2 – Inadequate accountability mechanisms are in place and this affects the regulatory governance practice of Nigeria's downstream regulatory agencies

This hypothesis was used in testing the accountability practice of the three Nigerian downstream regulatory agencies (DPR, PPPRA and PEF) in order to carefully address questions relating to their accountability practice. The next section discusses the findings from the DPR.

6.4.2.1 Perceptions relating to the accountability practice of the Department of Petroleum Resources

As stated in Section 3.4.1, DPR is one of the three regulatory agencies mandated to regulate Nigeria's downstream petroleum sector. Its mandate includes protecting the interests of the public and those of the government from the interests of regulated companies.

These reasons informed the adoption of the Public Interest Theory of Regulation in order to determine whether the DPR is accountable for its actions. In line with the Public Interest Theory of Regulation and the framework for good regulatory governance practice, eight statements were produced to determine the views of respondents on whether DPR follows substantive accountability practice when conducting its regulatory functions.

Table 6.11: Descriptive frequencies of the Department of Petroleum Resources accountability practices

Statements	M	MD	SD	D	N	A	SA	TR
a) Guidelines for obtaining import permits are clearly stated and publicised by the Department of Petroleum Resources.	3.55	4.00	7 (6.9)	21 (20.6)	16 (15.7)	25 (24.5)	33 (32.4)	102 (100)
b) The Department of Petroleum Resources follows due process in the issue of import licenses to regulated companies.	3.54	4.00	5 (4.9)	16 (15.7)	22 (21.6)	37 (36.3)	22 (21.6)	102 (100)
c) The Department of Petroleum Resources discloses information to the general public relating to the issue of import licenses.	3.04	3.00	8 (7.8)	26 (25.5)	28 (27.5)	34 (33.3)	6 (5.9)	102 (100)

d) The Department of Petroleum Resources discloses information to the National Assembly relating to the issue of import licenses.	3.24	3.00	4 (3.9)	28 (27.5)	22 (21.6)	36 (35.3)	12 (11.8)	102 (100)
e) The Department of Petroleum Resources discloses the amount of imported petroleum products to the general public.	2.94	3.00	9 (8.8)	35 (34.3)	20 (19.6)	29 (28.4)	9 (8.8)	102 (100)
f) The Department of Petroleum Resources discloses all discovered malpractices relating to importation of petroleum products.	3.05	3.00	13 (12.7)	26 (25.5)	20 (19.6)	29 (28.4)	14 (13.7)	102 (100)
g) The Department of Petroleum Resources discloses information relating to petroleum products refined locally.	3.17	3.00	6 (5.9)	30 (29.4)	20 (19.6)	33 (32.4)	13 (12.7	102 (100)
h) The Department of Petroleum Resources discloses all the revenue it generates annually.	3.24	3.00	7 (6.9)	32 (31.4)	14 (13.7)	28 (27.5)	21 (20.6)	102 (100)

Notes: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses
(b) Figures in brackets are percentages

Table 6.11 shows the descriptive frequencies and percentages of respondent views relating to the DPR's accountability (102 responses were recorded in each of the eight statements).

6.4.2.1.1 Guidelines to obtain import permits are clearly stated and publicised by the Department of Petroleum Resources

It is expected for the purpose of proper accountability that regulatory agencies should clearly publish and state the guidelines to be adopted or used by regulated entities (Adenikinju, 2009; Das and Quainty, 2002). It is therefore important to seek respondent views on whether the guidelines for obtaining import permits are clearly stated and publicised by DPR. From Table 6.11 it can be seen that out of the 102 recorded responses, 58 respondents (56.9%) were strongly in agreement. On the other hand, 28 respondents (27.5%) were strongly in disagreement, while 16 (15.7%) held a neutral position. Based on this, Mann-Whitney tests were run to determine where significant differences exist between the respondent groups.

The findings in Table 6.12 reveal that the DPR respondents' perceptions differ from the position held by the respondents from the PPPRA, PPMC, NEITI, NA, CS, and TU. The views of the PEF respondents varied from that of the PPPRA, NEITI, NA, CS and TU. Moreover, the cross-tabulation test disclose that the NEITI and CS

respondents were indecisive in their perception, with 40% and 40.2% agreeing and disagreeing respectively, and 60% and 44.4% of the respondents from the TU and NA respectively disagreed that the guidelines for obtaining import permits are clearly stated and publicised.

On the other hand, 100%, 45.5%, 72.7%, and 69.3% of the DPR, PPPRA, PEF, PPMC respondents respectively agreed. It could be argued that their agreement is appropriate given that the DPR is the import permit license awarding body. Moreover the PPPRA is another regulating body that would not be able to regulate the pricing of petroleum products in the downstream sector without understanding the guidelines of import permit; therefore the agreement verdict is possibly true. Similarly, the PEF's perception might be correct based on the fact that in order to equalise the price of petroleum products there has to be an understanding of the DPR's import permit guidelines. It could also be argued that the PPMC, as the nations' marketing and distributing company, should be in a good position to determine whether the DPR clearly publicises guidelines for import permits.

Table 6.12: Mann-Whitney test relating to the Department of Petroleum Resources accountability practices

a) Guidelines for obtaining import permits are clearly stated and publicised by the Department of Petroleum Resources.						
Groups	**P_1**	**P_3**	**N_1**	**N_2**	**C_1**	**T_1**
D_1	.001	.026	.002	.000	.000	.000
P_2	.044		.040	.007	.019	.001
b) The Department of Petroleum Resources follows due process in the issue of import licenses to regulated companies.						
Groups	**P_1**	**P_2**	**P_3**	**N_1**	**M**	**C_1**	**T_1**
D_1	.000	.027	.024	.009	.019	.000	.000
P_2					.005	.001	.010
c) The Department of Petroleum Resources discloses information to the general public relating to the issue of import licenses.						
Groups					**P_2**	**N_1**	**M_1**
P_3					.041	.031	.033
d) The Department of Petroleum Resources discloses information to the National Assembly relating to the issue of import licenses.						
Groups			**D_1**	**P_2**	**P_3**	**N_2**	**M_1**
C_1			.040	.001	.012	.023	.005
P_1				.007			
T_1				.004			
e) The Department of Petroleum Resources discloses the amount of imported petroleum products to the general public						
NIL						
f) The Department of Petroleum Resources discloses all discovered malpractices relating to importation of petroleum products.						
Groups					**N_1**	**C_1**	**T_1**

D_1	.033	.050	.018
g) The Department of Petroleum Resources discloses information relating to petroleum products refined locally.			
NIL			
h) The Department of Petroleum Resources discloses all the revenue it generates annually.			
Groups			**P_1**
D_1			.026

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

The findings above and the mean and median score of 3.55 and 4.0 would suggest that the majority of respondents are in agreement. Hence, it is appropriate to say that the DPR clearly publicises guidelines for import permits.

6.4.2.1.2 The Department of Petroleum Resources follows due process in the issue of import licenses to regulated companies

To ensure adequate accountability, regulators should comply with the appropriate accounting mechanisms, which are the main prerequisites for attaining good regulatory governance (Andres et al., 2008). Thus it is important to seek respondent perceptions on whether the DPR follows due process in the issue of import licenses to regulated companies. Table 6.11 displays the descriptive statistic findings. Of the 102 responses recorded, 59 (57.9%) respondents strongly agreed with the statement, 22 (21.6%) were neutral, and 21 (20.6%) strongly disagreed In view of this diversity, Mann-Whitney tests were run to ascertain the actual differences between the respondent groups.

Table 6.12 discloses that the DPR's perception differs from eight groups: the PPPRA, PEF, PPMC, NEITI, MOMC, CS and TU. The opinion of PEF is different from that of the PPPRA, CS and TU. According to the cross-tabulation test, 71.4% of the CS respondents disagree that the DPR follows due process in the issue of import licenses to regulated companies. Their position could be in line with that of the Senate Joint Committee which investigated the management of the Federal Government petroleum subsidy scheme. The committee discovered that many companies, despite lacking the capacity to import fuel and having no storage facilities or retail distribution outlets, were given importation licenses by the

regulatory agencies (Vanguard, February 2012). In addition, 70% and 45.5% of the respondents from the TU and PPPRA respectively took a neutral position, while respondents from the NEITI were equally divided with 50% of agreements and disagreements respectively.

On the other hand, 100% of the respondents from the DPR itself agreed that the organisation follows due process in the issue of import licenses to regulate companies. The DPR's position might be considered reliable as they are the license awarding body and are probably more knowledgeable about the process than any other group. Likewise, 90.9% of the respondents from the PEF are in agreement, which may be due to the fact that it has a regulatory relationship with the same companies to which the DPR awarded the licenses for the importation and distribution of petroleum products; thus their position may also be reliable. In the same vein, 53.9% of the respondents from the PPMC were in agreement; their position could be credible given that they are responsible for the importation, distribution and marketing of petroleum products in the country. Similarly, 70% of the respondents from the MOMC agreed with the statement; their opinion could be deemed appropriate because they obtain their import licenses from their DPR and thus may have enhanced knowledge of whether the DPR followed due process. Equally, 62.5% of the respondents from the IOMC were in agreement and this position could be accurate given that before embarking into the downstream business they have to obtain licenses from the DPR. Hence, the agreed groups are perceived to be better informed than the others which disagreed. Moreover, the mean and median score (3.54 and 4.00) indicate that the majority of respondents are in agreement. Therefore this clearly indicates that the DPR follows due process in the issue of import licenses to regulated companies.

6.4.2.1.3 The Department of Petroleum Resources discloses information to the general public relating to the issue of import licenses

Disclosure is a fundamental aspect of accountability. For regulatory agencies to achieve good regulatory governance they must disclose information to those who gave them their regulatory mandates, not only to the legislature or the executive arm of government, but also to the general public (OECD, 2002; IMF, 2004). Therefore it is appropriate to ask for respondent views on whether the DPR discloses information

relating to the issue of import licenses to the general public. Table 6.11 illustrates that out of the 102 responses recorded, 40 respondents are strongly in agreement, 34 strongly disagreed and 28 held a neutral opinion. On average, the mean and the median scores (3.04 and 3.0) show that respondents tended towards a neutral position. On this note, a Mann-Whitney test was run to determine the actual differences among the respondent groups.

As presented in Table 6.12, the opinion of the PPMC varied from that of the PEF, NEITI and MOMC. The results from the cross-tabulation tests indicate that 61.5% of the respondents from the PPMC are in agreement, while 70% and 50% of the respondents from the NEITI and MOMC respectively do not agree that the DPR disclose information to the general public regarding the issue of import licenses. On the other hand, 63.6% of the PEF respondents' perceptions were neutral. The PPMC's agreement to the statement cannot be considered credible given that their NA revealed that regulators do not disclose information relating to petroleum importation in Nigeria.[12] Moreover, the NEITI's representatives' disagreement can be deemed accurate given the fact that as NEITI is vested with constitutional powers to audit oil-related matters in the country, it might be aware of whether DPR discloses information to the general public relating to issue of import licenses. Hence it can be concluded that the DPR does not disclose information to the general public relating to the issue of import licenses.

6.4.2.1.4 The Department of Petroleum Resources discloses information to the National Assembly relating to the issue of import licenses

Respondent opinions were sought as to whether the DPR discloses information to the NA relating to the issue of import licenses. One of the prerequisites of accountability is information disclosure by regulatory agencies (Ansell and Gash, 2008). Table 6.11 presents descriptive statistics of the respondents. Of the 102 responses recorded, 48 of the respondents are strongly in agreement, 32 strongly disagree and 22 took a neutral position. The overall mean and median scores (3.24 and 3.00) indicate that the respondents are aligned towards agreement. From Table 6.12 it can be seen that

[12] The Nigerian Senate reported that the regulatory agencies granted licenses to 42 oil marketers to import 4.8 billion litres of petroleum products for the second quarter of the year 2012 to curb fuel scarcity which was never disclosed to Nigeria's media houses or the general public (Vanguard, 2012).

the Mann-Whitney tests highlight that the position of the CS respondents differs from that of the DPR, PEF, PPMC, NA and MOMC. The PPPRA's respondents' opinions varied from that of the PEF, while the TU respondents' perception was in contrast to that of the PEF.

As revealed by the cross tabulation test, 53.9%, 90.9%, 53.9%, 44.4%, and 60% of the respondents from the DPR, PEF, PPMC, NA, MOMC respectively agree that the DPR discloses information to the NA relating to the issue of import licenses. In contrast, 54.6% and 71.4% of the respondents from the PPPRA and CS disagreed, while 50% of the respondents from the TU were neutral.

The positive replies from the DPR, PEF, PPMC, NA and MOMC respondents could be more fitting given the position of the DPR as a regulatory agency that issues import licences and the fact that the PEF equalises the price of the products from those companies which have obtained import licences from the DPR. Similarly, the PPMC and MOMC are the country's marketing and distribution companies. The position of the NA might also be reliable since it has the constitutional powers to summon any agency to prove its action. Hence it can be said that the DPR discloses information to the NA relating to the issue of import licenses.

6.4.2.1.5 The Department of Petroleum Resources discloses the amount of imported petroleum products to the general public

Respondent views were asked on whether the DPR discloses the amount of imported petroleum products to the general public. Disclosure of information is essential in justifying the accountability of regulatory agencies (Averch and Johnson, 1962). The descriptive statistics in Table 6.11 show that out of the 102 responses recorded, 38 respondents are strongly in agreement with the statement, 44 strongly disagree, while 20 are neutral. From the Mann-Whitney test results in Table 6.12, it can be seen that there are no significant differences between the respondent groups. Although the overall mean and median scores (2.94 and 3.00) indicate that the respondents are neutral, the mean is aligning towards disagreement.

Furthermore, 43.1% of the respondents disagree, while 19.6% and 37.2% of the respondents are neutral and in agreement respectively. Therefore, this indicates that

the DPR does not disclose the amount of imported petroleum products to the general public since the majority of respondents disagree. This is consistent with the findings of the Petroleum Task Force that the DPR does not provide information relating to the actual quantity of the petroleum products imported into the country (Petroleum Task Force, 2012).

6.4.2.1.6 The Department of Petroleum Resources discloses all discovered malpractices relating to the importation of petroleum products

The respondents' opinions were sought on whether the Department of Petroleum Resources discloses all discovered malpractices relating to the importation of petroleum products. This is imperative because in 2012 the CBN governor alleged that the importation of petroleum products into the country was nothing but rent-seeking (Sanusi, 2012). From Table 6.11 it can be seen that the descriptive statistics reveal that out of the 102 responses recorded, 43 of the respondents strongly agreed that the Department of Petroleum Resources discloses all discovered malpractices relating to the importation of petroleum products. In contrast, 39 of the respondents strongly disagreed with the statement and 20 respondents took a neutral position. The overall mean and median (3.05 and 3.00) suggest that the respondents' perceptions were neutral. Thus, Mann-Whitney tests were run and the differences discovered are presented in Table 6.12.

The tests divulged that the DPR's opinion varies from that of three groups namely: the NEITI, CS and TU. The cross tabulation test shows that 69.3% of the respondents from the DPR agreed. The DPR agreements contradict the subsidy probe reports instigated by the Presidential Committee on the Verification and Reconciliation of Fuel Subsidy Payments and the National Assembly, which compelled oil marketing companies and regulatory agencies to refund huge amounts of money to the government treasury for the various malpractices committed (Subsidy report, 2012).

Moreover, 70%, 42.9% and 70% of the of the NEITI, CS and TU respondents disagree that the Department of Petroleum Resources discloses all exposed malpractices relating to the importation of petroleum products. This position could be correct given that various reports, including that of the NEITI, revealed

monumental fraud in the downstream petroleum sector (Subsidy Report, 2012). Thus, this would indicate that the DPR does not disclose all exposed malpractices.

6.4.2.1.7 The Department of Petroleum Resources discloses information relating to locally refined petroleum products.

It was imperative to seek the respondents' opinion on whether the Department of Petroleum Resources discloses information relating to locally refined petroleum products. This is because despite huge investment, the domestic refineries have failed to produce sufficient petroleum products to serve the needs of Nigerians (Ekpu and Ehighelua, 2004 and Blanchetot, et al., 2002). From Table 6.11, it is evident from the descriptive statistic test that out of the 102 responses recorded, 46 respondents representing 45.1% strongly agreed that the Department of Petroleum Resources discloses information relating to locally refined petroleum products. 36 respondents strongly disagreed with the statement and 20 respondents were neutral. The data in Table 6.12 reveals no significant differences between the groups. Thus, the overall mean and median scores of 3.17 and 3.00 indicate that the respondents' position is neutral.

One possible reason for the respondents' neutral position could be related to the assertion that the refineries are under performing. This assertion is justified by Arowolo, (2004) who stated that in spite of the millions of dollars spent on refinery turnaround maintenance between 1998 and 2006, no sustainable improvements in refinery output have been achieved. Hence, the DPR does not disclose the amount of locally refined petroleum.

6.4.2.1.8 The Department of Petroleum Resources discloses all the revenue it generates annually.

Revenue disclosure is a very important mechanism in regulatory accountability. Regulators are required to publish not only their financial reports and justify any expenditure incurred, but also the revenue generated when fulfilling their duties (Botero, et al., 2004). Seeking the respondents' views in relation to whether the Department of Petroleum Resources discloses all the revenue it generates annually, is essential for this study. As can be seen in Table 6.11, descriptive statistics reveal that

out of the 102 responses recorded, 49 respondents strongly agreed, 39 respondents strongly disagreed and 14 respondents were neutral in relation to the statement.

The Mann-Whitney tests in Table 6.12 revealed that the DPR's perception differed from that of the PPPRA's. The cross tabulation showed 69.2% of the DPR respondents agreed; while, 45.5% of the PPPRA respondents disagreed with the statement that the Department of Petroleum Resources discloses all the revenue it generates annually. The disagreement voiced by the PPPRA is in line with accusation that the DPR does not disclose their annual revenue[13]. Indeed, lawmakers were startled when they discovered that the DPR had failed to produce evidence to justify their Internally Generated Revenue (IGR) and administrative charges (NASS, 2012). This incident clearly indicates that the DPR does not disclose its internally generated revenue.

6.4.2.2 Perceptions relating to the accountability practice of the Petroleum Product Pricing Regulatory Agency;

As noted in Section 3.4.2, the Petroleum Product Pricing Regulatory Agency (PPPRA) is another regulatory agency mandated to regulate Nigeria's downstream petroleum sector. Its mandates include protecting the interest of the public and that of the government from the interests of the regulated companies. These reasons informed the adoption of the Public Interest Theory of regulation so as to determine whether the PPPRA are accountable for their actions. In line with the Public Interest Theory of Regulation and the regulatory governance framework, nine statements were made relating to seek the views of the respondents on whether the Petroleum Product Pricing Regulatory Agency has substantive accountability in conducting its regulatory functions.

Table 6.13 shows the descriptive frequencies and percentages of the respondents' views relating to the Petroleum Product Pricing Regulatory Agency's accountability. Thus, 102 responses were recorded in each of the nine statements respectively.

[13] The National Assembly warned public institution under the Ministry of Petroleum Resources not spends any funds unless it is appropriated by the National Assembly (NASS, 2012).

Table 6.13: Descriptive frequencies of Petroleum Products Pricing Regulatory Agency accountability practices

Statements	M	MD	SD	D	N	A	SA	TR
a) Guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency.	3.30	4.00	14 (13.7)	19 (18.6)	13 (12.7)	34 (33.3)	22 (21.6)	102 (100)
b) The Petroleum Products Pricing Regulatory Agency follows due process in pricing of petroleum products.	3.25	3.00	9 (8.8)	17 (16.7)	26 (25.5)	39 (38.2)	11 (10.8)	102 (100)
c) The Petroleum Products Pricing Regulatory Agency discloses to the general public all important information relating to the pricing of petroleum products	3.22	3.00	6 (5.9)	29 (28.4)	18 (17.6)	35 (34.3)	14 (13.7)	102 (100)
d) The Petroleum Products Pricing Regulatory Agency discloses to the National Assembly all important information relating to the pricing of petroleum products	3.30	3.00	4 (3.9)	29 (28.4)	19 (18.6)	32 (31.4)	18 (17.6)	102 (100)
e) The Petroleum Products Pricing Regulatory Agency audits all subsidy claims relating to the importation of petroleum products.	3.19	3.00	8 (7.8)	27 (26.5)	17 (16.7)	38 (37.3)	12 (11.8)	102 (100)
f)The Petroleum Products Pricing Regulatory Agency follows due process relating to all subsidy payments	2.99	3.00	15 (14.7)	21 (20.6)	28 (27.5)	26 (25.5)	12 (11.8)	102 (100)
g) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to the pricing of petroleum products.	2.83	3.00	15 (14.7)	28 (27.5)	26 (25.5)	25 (24.5)	8 (7.8)	102 (100)
h) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products.	2.95	3.00	12 (11.8)	22 (21.6)	33 (32.4)	29 (28.4)	6 (5.9)	102 (100)
i)The Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders.	3.00	3.00	13 (12.7)	19 (18.6)	35 (34.3)	25 (24.5)	10 (9.8)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.2.2.1 Guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency

One of the main functions of the PPPRA is primarily to determine the pricing policy of petroleum products (PPPRA, 2013). Therefore, it is important to ascertain the

respondents' perception in relation to whether guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency. Table 6.13 above illustrates that of the 102 responses recorded, 54.9% of the respondents are strongly in agreement. In contrast, 32.3% of the respondents strongly disagreed with the assertion, while 12.7% of the respondents took a neutral position. The mean and median scores (3.30 and 4.00) suggest agreement. Based on these divergent views, Mann-Whitney tests were run to ascertain if significant differences existed between the respondent groups.

In Table 6.14, the Mann-Whitney test reveals that the CS and NA's position varied from that of the PPPRA. The cross tabulation reveals that 72.8% of the respondents from the PPPRA agreed that guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency.

Table 6.14: Mann-Whitney test for the PPPRA's accountability practices

a) Guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency.					
Groups					**P_1**
C_1					.001
N_2					.010
b) The Petroleum Products Pricing Regulatory Agency follows due process in the pricing of petroleum products.					
Groups				**N_1**	**C_1**
P_1				.017	.038
M_1				.003	.007
c) The Petroleum Products Pricing Regulatory Agency discloses to the general public all important information relating to the pricing of petroleum products.					
Groups	**P_3**	**N_1**	**C_1**	**I_1**	**T_1**
D_1			.036		
P_1	.010	.003	.001	.030	
P_2		.017	.004		
N_2	.009	.001	.000	.006	.004
M_1		.040	.016		
d) The Petroleum Products Pricing Regulatory Agency discloses to the National Assembly all important information relating to the pricing of petroleum products.					
Groups	**P_3**	**N_1**	**N_2**	**C_1**	**I_1**	**T_1**
P_1	.017	.033				.011
P_2	.005	.011	.033	.029	.015	.004
M_1						.041
e) The Petroleum Products Pricing Regulatory Agency audits all subsidy claims relating to the importation of petroleum products.					
Groups		**P_3**	**N_1**	**C_1**	**T_1**
D_1		.006	.002	.002	.028
P_1		.008	.003	.003	.029

f) The Petroleum Products Pricing Regulatory Agency follows due process relating to all subsidy payments**.**

Groups	P_3	P_2	N_1	N_2	M_2	C_1	T_1
P_1	.000	.000	.020	.049	.008	.001	.000

g) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to the pricing of petroleum products.

Groups	P_3	P_2	N_1	C_1
P_1	.002	.001	.004	.003
T_1	.013	.047	.018	.021

h) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products.

Groups	P_3	N_1	T_1
D_1	.004	.010	
P_1	.001	.003	.005
N_2	.005	.013	.049

i) The Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders.

Groups	P_3	P_2	N_1	I_1
D_1	.011	.001	.002	.006
P_1	.032	.037	.012	.045

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)
(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table.

The reason for the agreement voiced by the PPPRA might be because it is responsible for the pricing of petroleum products, so disagreeing with this statement would indicate it is not fulfilling its own job adequately. On the other hand, 66.6% and 85.7% of the respondents from the NA and the CS disagreed that the guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency. This is consistent with the fact that a number of oil marketers sell petroleum products above the price approved by the government[14] and the National Assembly criticised the PPPRA pricing template[15]. Hence, this finding this could be related to the failure of the PPPRA to clearly publish guidelines to determine the price of petroleum products.

[14] The Department of Petroleum Resources closed three oil depots and a number of fillings stations selling petrol above official prices (PUNCH OCTOBER 12, 2012 BY STANLEY OPARA)

[15] The current template being used by the PPPRA in computing and paying PSF includes in-built prices for wastages and inefficiencies (eg. Lightering exercises, demurrage) that could be plugged to save the nation's scarce resources. We, therefore, recommend the template be revised. Henceforth the PPPRA margin of error on the payment template for ascertaining allowable volumes on imported products should be no more than +/5% compared to the current +/-10% (National Assembly, 2012).

6.4.2.2.2 The Petroleum Products Pricing Regulatory Agency follows due process in the pricing of petroleum products.

The PPPRA was burdened with the responsibility of determining the price of petroleum products to regulate their supply and distribution. Hence, it is necessary to seek the opinion of respondents on whether the Products Pricing Regulatory Agency follows due process in pricing of petroleum products.

From Table 6.13, it is evident that the descriptive statistics disclose that out of the 102 responses recorded, 50 respondents strongly agreed, 26 respondents were neutral and 26 respondents strongly disagreed that the Products Pricing Regulatory Agency follows due process in the pricing of petroleum products. The overall mean and median scores (3.25 and 3.00) show that the respondents were aligned towards agreement.

Table 6.14 illustrates that the opinion of the PPPRA and MOMC varied from that of the NEITI and CS. The cross tabulation test revealed that 72.8% and 90% of the respondents from the PPPRA, and PEF agreed. The position of these groups contradicts the assertion that the Board of the PPPRA should immediately be dissolved for not following due process regarding its duties[16] (Amanze, 2011).

In contrast, 50% and 42.9% of the respondents from the NEITI and the CS disagreed. The disagreements could be reliable given that the NEITI is the agency responsible for ensuring transparency (due process) in the petroleum sector of the country. Thus, they would be better informed than the other groups, on whether the PPPRA discharged their duties diligently. Hence, it will be argued that the PPPRA does not follow due process in the pricing of petroleum products.

[16] The oil workers also called on the Federal Government to immediately dissolve the PPPRA Board, declaring that the agency had lost its political and economic relevance. They noted that core investors in the downstream sector were marginalised in the import allocation, while brief case companies are favoured by the PPPRA. The oil workers further alleged that cabals in the PPPRA Board determined who gets what in the fuel imports scheme and demanded that the Ministry of Petroleum should henceforth, supervise the agency's activities and ensure that only entities that have facilities for imports, distribution and supply benefit from the imports scheme (Amanze, 2011).

6.4.2.2.3 The Petroleum Products Pricing Regulatory Agency discloses to the general public, all important information relating to the pricing of petroleum products.

Disclosure is one of the fundamental aspects of accountability (Buchanan, and Tollison, 1984). Therefore, respondents' views were sought on whether the Petroleum Products Pricing Regulatory Agency discloses all important information relating to the pricing of petroleum products to the general public. Table 6.13 revealed that out of the 102 responses recorded, 49 respondents strongly agreed with the statement, 35 of the respondents strongly disagreed and 18 were neutral. Therefore, Mann-Whitney tests were run to determine whether significant differences existed among the respondent groups.

From the data presented in Table 6.14, it is clear that the Mann-Whitney tests showed that the CS, PPMC and NEITI's perceptions differed from six groups namely: the DPR, PPPRA, PEF, NA, MOMC and TU. Moreover, the cross tabulation test revealed that 72.8%, 63.6%, 100% and 60% of the respondents from the PPPRA, PEF, NA and MOMC agreed that the Petroleum Products Pricing Regulatory Agency discloses all important information relating to the pricing of petroleum products, to the general public.

On the other hand, 61.6%, 70% and 85.7% of the respondents from the PPMC, NEITI, and CS were in disagreement with the assertion and 60% of the respondents from the TU were neutral, whilst the DPR and IOMC respondents were indecisive.

From the above analysis, it is evident that the agreement position is appropriate, because the NA has the legal authority to ask any agency in the country to disclose its activities, as such it should be better informed than any other group. Also, on average the mean and median scores (3.22 and 3.00) indicate that the majority of the respondents tend towards agreement. Therefore, it can be argued that the Petroleum Products Pricing Regulatory Agency discloses all important information relating to the pricing of petroleum products, to the general public.

6.4.2.2.4 The Petroleum Products Pricing Regulatory Agency discloses all important information relating to the pricing of petroleum products to the National Assembly.

The respondents' opinions were sought on whether the Petroleum Products Pricing Regulatory Agency discloses all important information, relating to the pricing of petroleum products, to the National Assembly. One of the preconditions of accountability is information disclosure (Busse, and Hefeker, 2007). The data from the descriptive statistics test confirmed, as outlined in Table 6.13, that out of the 102 respondents 49% of the respondents strongly agreed, 32.3% strongly disagreed, whereas, 18.6% took a neutral position. The overall mean and median scores (3.30 and 3.00) also indicate that the respondents tended towards agreement. Based on this information, Table 6.14 disclosed that the Mann-Whitney tests and the PPPRA, PEF, NA, MOMC and CS perceptions differed from that of the PPMC, NEITI, IOMC and TU respectively.

Furthermore, the cross tabulation tests illustrate that 63.7%, 73.7%, 55.6%, 70% and 57.1% of the respondents from the PPPRA, PEF, NA, MOMC and CS respectively, were in agreement that the Petroleum Products Pricing Regulatory Agency does disclose all important information relating to the pricing of petroleum products, to the National Assembly. On the contrary, 61.6%, 50% and 50% of the respondents from the PPMC, NEITI and TU respectively, disagreed. The respondents from the IOMC were split between agreement and disagreement, with 37.5% each. Given that as it may, the agreed view could be more suitable taking into consideration the fact that the respondents from the PPPRA and the PEF are regulators. Moreover, the NA, as the highest law making body and the MOMC, as major marketers, are likely to be more knowledgeable in this subject than the other groups. Hence, this would indicate that the PPPRA provides important information to the National Assembly, relating to the pricing of petroleum products.

6.4.2.2.5 The Petroleum Products Pricing Regulatory Agency audits all subsidy claims relating to the importation of petroleum products.

The respondents' views relating to the auditing of fuel subsidy claims were sought, as in Nigeria the fuel subsidy has become a major issue of concern because of

allegations that it was fraudulent (Sunusi, 2012). Hence, it is vital to determine whether the Petroleum Products Pricing Regulatory Agency audits all subsidy claims relating to the importation of petroleum products. The descriptive statistics presented in Table 6.13, reveal the mean and median scores (3.19 and 3.00) which suggest that the respondents have a neutral perception. Of the 102 responses recorded, 50 (49.1%) respondents were strongly in agreement, 35 (34.3%) strongly disagreed and 17 (16.7%) were neutral.

The data from Table 6.14 derived from the Mann-Whitney tests indicate that the respondents from the DPR, PPPRA, and IOMC overwhelmingly agreed, with 77%, 72.7% and 50% respectively. This differs from the respondents of the PPMC, NEITI and CS who disagreed with 69.2%, 60% and 85.7% respectively. Considering the nature of the statement it can be argued that the disagreement position could be seen to be more accurate. This is because the NEITI was vested with constitutional powers to audit all petroleum matters, including petroleum subsidies in the country and hence, it is party to more information on this subject than the other respondent groups. Consequently, this implies that the Petroleum Products Pricing Regulatory Agency does not audit all subsidy claims relating to the importation of petroleum products.

6.4.2.2.6 The Petroleum Products Pricing Regulatory Agency follows due process relating to all subsidy payments

Another issue of concern is the assertion that the PPPRA pays subsidies to companies that have never imported petroleum products into the country (Subsidy Probe Report, 2012). Therefore, the respondents' perceptions were sought in relation to the statement above. From the descriptive statistic tests in Table 6.13 it was noted that the mean and median scores were 2.99 and 3.00, with the mean moving towards the neutral position. However, out of the 102 responses received, 37.3% of the respondents were strongly in agreement that the Petroleum Products Pricing Regulatory Agency follows due process relating to all subsidy payments. On the other hand, 36 respondents, representing 35.3% strongly disagreed with the statement and 27.5% of the respondents took a neutral position. This revelation informed the use of Mann-Whitney tests.

Table 6.14 shows that the PPPRA's opinion differed from seven groups namely: the PPMC, PEF, NEITI, NA, MOMC, CS and TU. The findings from the cross tabulation tests reveal that 90.9% of the respondents from the PPPRA are in agreement. However, 81.8%, 40% and 57.1% of the respondents from the PEF, MOMC and CS were neutral. Whereas, 77%, 50%, 55.4% and 60% of the respondents from the PPMC, NEITI, NA and TU strongly disagreed with the statement. In spite of the agreements voiced by the respondents of the PPPRA, there were revelations from credible agencies (including the NEITI and NA) and audits firms that the Petroleum Products Pricing Regulatory Agency does not follow due process relating to subsidy payments[17]. Hence, this signifies that the PPPRA is not transparent in the payment of petroleum subsidy.

6.4.2.2.7 The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to the pricing of petroleum products.

This statement sought the respondents' perceptions in order to ascertain whether the PPPRA discloses malpractices relating to the pricing of petroleum products. The findings from the descriptive statistic test, as presented in Table 6.13, illustrate that the overall mean and median score of 2.83 and 3.00 indicate that the respondents respectively tended to disagree. Of the 102 responses recorded, 33 of the respondents strongly agreed. On the other hand, 26 of the respondents were neutral and 43 of the respondents strongly disagreed that the Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to the pricing of petroleum products. On this note, Mann-Whitney tests results were presented in Table 6.14 above.

Furthermore, the cross tabulation tests observed that 63.6% and 50% of respondents from the PPPRA and TU were in agreement. On the contrary, 72.7% of the respondents from the PEF were neutral and 77%, 70% and 85.7% of the respondents

[17] Subsidy payments were made by PPPRA without the signature of external auditors and independent inspectors of shore tank certificates. The PPPRA fraudulently paid oil marketers N1.07tn. The PPPRA was asked to refund N312bn it paid to itself, while the marketers who "violated the Petroleum Subsidy Fund" were directed to return N8.6bn to the government treasury (KPMG audits report, NEITI audits report, Faruk Lawan-led committee report, Imoukhede-led committee report, Nuhu Ribadu-led committee report, 2012).

from the PPMC, NEITI and CS opposed the statement. This position could be reliable because the NEITI is in charge of the country's transparency practice and, as such, it is in a better position to ascertain the PPPRA's disclosure practice. The disagreements stated by the respondents of the CS, which is the public interest representative, could also be correct since they are best placed to determine whether the PPPRA reports exposed malpractices to the general public. The disagreement is consistent with the National Assembly which recommended the persecution of a PPPRA official[18] for not disclosing malpractices in the sector (Subsidy Reports 2012). Therefore, this evidence illustrates that the PPPRA does not disclose unprofessional conduct relating to pricing.

6.4.2.2.8 The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products.

This section asked the respondents' for their view in relation to whether the Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products. Table 6.13 presents the descriptive statistics of the respondents. Out of the 102 responses 34.2% of the respondents were strongly in agreement, 32.4% were neutral and 33.4% strongly disagreed that the Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products. The table also shows the mean and median scores of 2.95 and 3.0 respectively, moving towards disagreement.

In Table 6.14, it can be seen that the Mann-Whitney tests reveal that the DPR's position differed from that of the PPMC and the NEITI respectively. The tests also show that the views of the respondents from the PPPRA diverged from five groups, namely: the PPMC, NEITI and TU. Likewise, the opinion of the respondents from the NA contradicted that of the PPMC, PEF, NEITI and TU. The cross tabulation unveiled that respondents from the DPR, PPPRA and NA were in agreement with 46.2%, 72.7%, and 55.5%. On the other hand, another three of the respondent groups disagreed with 76.9%, 70% and 50% from the PPMC, NEITI, and TU respectively.

[18] According to the National Assembly report on oil subsidy, the Chairman of the Board of PPPRA from 2009 - 2011, and the entire Members of the Board during the same period are hereby reprimanded and should be persecuted by anti-corruption agencies for not disclosing malpractices in the sector[18] (Subsidy reports 2012).

However, the percentage of agreements from the DPR respondents is low (46.2%) and 38.5% were neutral. This, together with the fact that 33.3% of the NA respondents held a neutral position, would indicate that only the PPPRA actually agreed (PPPRA, 72.7%). Thus, it can be argued that the disagreements indicated by the PPMC, NEITI and TU respondents are more appropriate, because evidence suggests that the PPPRA usually conspires with oil marketers to defraud the amount allocated to petroleum subsidies (National Assembly Subsidy Report, 2012). On this note, the PPPRA possibly does not disclose any mismanagement relating to subsidy claims.

6.4.2.2.9 The Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders.

The regulatory agencies should account for all revenue they generate in the course of discharging their regulatory responsibility (Chong, and López-De-Silanes, 2002). Hence, the respondents' views were sought in relation to the above statement. In Table 6.13, the descriptive statistics reveal that out of the 102 responses recorded, 35 of the respondents strongly agreed with the statement, 32 respondents strongly disagreed, while 35 respondents were neutral. The overall mean and median of 3.00 and 3.00 indicate that the respondents were neutral. From the Mann-Whitney test, it is clear that the DPR and PPPRA respondents' perception differed from that of the PPMC, PEF, NEITI and IOMC respondents, as can be seen in Table 6.14. The cross tabulation revealed that 76.9%, 54.5% of the respondents from DPR and PPPRA are in agreement that the Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders. Unlike the aforementioned groups, 81.8% and 50% of the respondents from the PEF and IOMC were indecisive, whilst, 61.6% and 60% of the respondents from the PPMC and NEITI disagreed with the statement. The disagreement finding could be reliable, because the Nigeria's Senate discovered that the PPPRA does not disclose its annual revenue to legitimate stakeholders (Premium Times, 2012)[19]. Therefore, this suggests that the PPPRA does not publish all information related to generated revenue.

[19] The inability by PPPRA to provide documents backing the salary expenditure and revenue generated. Some the regulators (including PPPRA) think that except appropriations are drawn directly from the Consolidated Revenue Fund, they are not accountable to the parliament for. Nobody can

6.4.2.3 Perceptions relating to the accountability practice of the Petroleum Equalisation Fund;

As discoursed in Section 3.4.3, the Petroleum Equalisation fund was established by Decree No.9 of 1975, mainly to administer Uniform Prices of Petroleum products throughout the country for the benefit of general public. Consequently, this is one of the justifications for the adoption of the Public Interest Theory as a theoretical framework for this study, in order to establish whether the PEF is accountable for their actions. Considering the theory and the framework for good regulatory governance practice, nine statements were developed to determine the respondents' perceptions on whether the Petroleum Equalisation Fund has substantive accountability in regulatory governance. Table 6.15 disclosed the frequencies and the percentages of the respondents' views on whether the Petroleum Equalisation Fund has substantive accountability in regulatory governance. There were 102 responses from each of the nine statements.

Table 6.15: Descriptive frequencies of the Petroleum Equalisation Fund accountability practices

Statements	M	MD	SD	D	N	A	SA	TR
a) Guidelines to equalise the price of petroleum products are clearly stated and publicised by the Petroleum Equalisation fund.	3.24	3.00	7 (6.9)	20 (19.6)	26 (25.5)	40 (39.2)	9 (8.8)	102 (100)
b) The Petroleum Equalisation fund follows due process in equalising the price of petroleum products in the country.	3.39	4.00	5 (4.9)	20 (19.6)	22 (21.6)	40 (39.2)	15 (14.7)	102 (100)
c) The Petroleum Equalisation Fund follows due process in determining bridging costs.	3.43	4.00	3 (2.9)	19 (18.6)	28 (27.5)	35 (34.3)	17 (16.7)	102 (100)
d) The Petroleum Equalisation Fund discloses to the general public, important information relating to price equalisation of petroleum products.	3.30	3.50	5 (4.9)	25 (24.5)	21 (20.6)	36 (35.3)	15 (14.7)	102 (100)
e) The Petroleum Equalisation Fund discloses to the National Assembly, information relating to price equalisation of petroleum products.	3.38	3.00	3 (2.9)	21 (20.6)	29 (28.4)	32 (31.4)	17 (16.7)	102 (100)
f) The Petroleum Equalisation Fund audits all bridging claims relating to the transportation of petroleum	3.53	4.00	4 (3.9)	18 (17.6)	21 (20.6)	38 (37.3)	21 (20.6)	102 (100)

receive money on behalf of Nigeria; spend it on his own behalf without recourse to the National Assembly'' the senate said (Premium Times, 2012).

products.								
g) The Petroleum Equalisation Fund follows due process relating to payment of bridging claims.	3.27	3.00	8 (7.8)	23 (22.5)	21 (20.6)	33 (32.4)	17 (16.7)	102 (100)
h) The Petroleum Equalisation Fund discloses all significant discovered malpractices relating to bridging claims	3.14	3.00	9 (8.8)	29 (28.4)	19 (18.6)	29 (28.4)	16 (15.7)	102 (100)
i) The Petroleum Equalisation Fund discloses all revenue it generates relating to the registration of transporters.	3.24	3.00	9 (8.8)	24 (23.5)	26 (25.5)	20 (19.6)	23 (22.5)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.2.3.1 Guidelines to equalise the price of petroleum products are clearly stated and publicised by the Petroleum Equalisation Fund

To ensure accountability practice is in place, regulators are expected to clearly publish and state the guidelines to be used by all stakeholders. In doing so, it guarantees the effectiveness of good regulatory governance (IMF, 2004 and Cook, 1999). On this note, the respondents' opinion was sought in relation to the above statement. The descriptive statistics tests in Table 6.15 revealed that out of the 102 responses recorded, 49 of the respondents were strongly in agreement, 27 of the respondents strongly disagreed and 26 were neutral.

Table 6.16: Mann-Whitney test, relating to the Petroleum Equalisation Fund accountability practices

a) Guidelines to equalise the price of petroleum products are clearly stated and publicised by the Petroleum Equalisation fund.								
NIL								
b) The Petroleum Equalisation fund follows due process in equalising the price of petroleum products in the country.								
Groups		**P_1**	**N_1**	**N_2**	**P_3**	**I_1**	**C_1**	**T_1**
P_2		.003	.002	.001	.015	.012	.009	.004
c) The Petroleum Equalisation Fund follows due process in determining bridging costs.								
Groups					**P_2**	**N_1**	**M_1**	**C_1**
D_1					.013	.004		.009
P_1					.005	.011	.006	.025
P_3					.007		.039	
d) The Petroleum Equalisation Fund discloses to the general public, important information relating to price equalisation of petroleum products.								
Groups	**D_1**	**P_1**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
P_2	.025	.001	.001	.000	.011	.002	.028	.003	.003
e) The Petroleum Equalisation Fund discloses to the National Assembly, information relating to price equalisation of petroleum products.									
Groups	**D_1**	**P_1**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**

P_2	.003	.001	.001	.001	.002	.003	.003	.001	.000

f) The Petroleum Equalisation Fund audits all bridging claims relating to the transportation of petroleum products.

Groups	**D_1**	**P_2**	**C_1**	**T_1**
P_3	.007	.000	.012	.021

g) The Petroleum Equalisation Fund follows due process relating to the payment of bridging claims.

Groups	**P_1**	**P_3**	**N_1**	**C_1**	**T_1**
D_1	.011	.003	.006	.003	.001
P_2	.000	.000	.000	.000	.000
M_1	.026	.009	.016	.007	.003

h) The Petroleum Equalisation Fund discloses all significant discovered malpractices relating to bridging claims.

NIL

i) The Petroleum Equalisation Fund discloses all revenue it generates relating to the registration of transporters.

Groups	**D_1**	**P_1**	**P_3**	**N_1**	**M_1**	**I_1**	**C_1**
P_2	.012	.000	.000	.001	.000	.001	.002

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

Data presented in Table 6.16 from the Mann-Whitney test discloses that no differences were detected among the groups. However, the overall mean and the median scores of 3.24 and 3.00 suggest that the respondents incline towards agreement. One possible reason for this is that it could be that it is common knowledge that all stakeholders in the country are aware of the bridging guidelines. In addition, even the general public are mindful that petroleum products are subsidised through the bridging procedure. Therefore all the respondent groups are in a good position to be well informed. This suggests that the PEF clearly states and publicises guidelines to equalise petroleum products in the country.

6.4.2.3.2 The Petroleum Equalisation Fund follows due process in equalising the price of petroleum products in the country

The PEF was mandated to determine and equalise the price of petroleum products throughout the country (PEF, 2012). Hence it is important to seek respondent views on whether the PEF follows due process in equalising the price of petroleum products in the country. The mean and the median of 3.39 and 4.00 given in Table 6.15 suggest that respondents are in agreement with the statement. Out of the 102

responses recorded, 53.9% of the respondents are strongly in agreement and 24.5% of the respondents strongly disagreed while 21.6% of the respondents were neutral. The Mann-Whitney test detected differences among the respondent groups.

The perception of the respondents from the PEF varied from that of the PPRA, NEITI, NA and IOMC, as shown in Table 6.16. The differences among the PEF and PPMC, CS and TU are based on the strength of the agreements. The cross-tabulation test discloses that, 54.5% and 55.6% of the respondents from the PPPRA and NA are neutral in relation to the statement, whereas 60% and 50% of the respondents from the NEITI and IOMC respectively disagreed that the PEF follows due process in equalising the price of petroleum products in the country.

By contrast, 76.9%, 90.9%, 53.9% 57.1% and 50% from the DPR, PEF, PPMC, CS and TU respectively are in agreement. The position of these groups could be more appropriate given that the DPR and PEF as regulators and the PPMC as distributors of petroleum products should understand the due process of price equalisation better than any other group. Similarly, the CS and TU, as associations that protect public interest, ought to be aware of the due process relating to price equalisation in the country. Hence this shows that the PEF follows due process in equalising the price of petroleum products.

6.4.2.3.3 The Petroleum Equalisation Fund follows due process in determining bridging costs

As stated earlier in Section 3.4.3, the importance of bridging is emphasised by the need to ensure equitable product distribution to all parts of the country at a uniform price in order to prevent petroleum products shortages (PEF, 2012). As a result, respondent perceptions are sought relating to the above statement. Table 6.15 shows the descriptive frequencies of the respondents and that the mean and the median scores of 3.43 and 4.0 indicate agreement. In addition, out of the 102 responses recorded, 52 of the responses strongly agreed with the statement, 28 took a neutral position, while 22 of the respondents strongly disagreed.

Table 6.16 presents the differences between the respondent groups. The cross-tabulation test revealed that 63.6% of the respondents from the PPPRA were neutral

and 70% and 57.2% of the respondents from the NEITI and CS respectively disagreed that the PEF follows due process in determining bridging costs. In contrast, 69.2%, 90.9%, 53.9%, 100% and 50% of the respondents from the DPR, PEF, PPMC and MOMC respectively agreed with the statement. Consequently, the agreed position may perhaps be more reliable than the other groups' perception due to the fact that the DPR and PEF have the power to determine bridging costs in the downstream sector. In the same way, the PPMC and MOMC are responsible for the marketing and distribution of products, as well as for claiming bridging costs after products were allocated and as such they should be more knowledgeable than other groups. This clearly implies that the PEF follows due process while ascertaining bridging costs.

6.4.2.3.4 The Petroleum Equalisation Fund discloses to the general public, important information relating to the price equalisation of petroleum products

As a regulatory body, the PEF is expected to disclose information to the general public since they are the major stakeholders in the sector. This fact indicates that it is important to find out respondent views on the above statement. On average, the mean and median scores of 3.30 and 3.50 indicate a leaning towards agreement, as shown in Table 6.15. Equally, the table discloses that from a total of 102 responses recorded, 30 respondents strongly disagreed, 21 were neutral and 51 strongly agreed.

The Mann-Whitney and cross-tabulation tests reveal that respondents from the PPPRA were indecisive, with 36.4% equally disagreeing and agreeing. This makes them different from the respondents of the DPR, PEF, NA, MOMC, IOMC and TU who overwhelmingly agreed with 69.3%, 90.9%, 66.2%, 50%, 50%, and 60% respectively. As shown in Table 6.15 the differences that exist between PEF and the five groups (DPR, NA, MOMC, IOMC and TU) are as a result of the extent of agreement.

On the other hand, 38.5%, 60%, 42.9% of the respondents from the PPMC, NEITI and CS disagreed with the statement. These negative perceptions could be appropriate because the CS, which directly serves as the voice of the general public, is in the best position out of all the groups to understand whether the PEF discloses important information relating to price equalisation of petroleum products to the

general public. This is in line with the findings of the NA that the general public is not informed of the costs incurred during the bridging of petroleum products (Petroleum Task Force, 2012). This indicates that the PEF does not provide the general public with information relating to bridging costs.

6.4.2.3.5 The Petroleum Equalisation Fund discloses to the National Assembly information relating to price equalisation of petroleum products.

The PEF is mandated to administer the price equalisation scheme to ensure the survival of the government's policy of uniform pump prices for petroleum products nationwide (Gillies, 2009; PEF, 2012). Thus respondent opinion relating to the above statement was sought. Overall, the respondents tended towards agreement as indicated by the mean and median score of 3.38 and 3.0 respectively. Likewise, Table 6.15 reveals that out of the 102 responses recorded, 49 respondents strongly agreed and 29 were neutral, while 24 strongly disagreed with the statement.

From Table 6.16 it can be seen that the Mann-Whitney test indicates that the PEF's opinion was in direct opposition to the view of the respondents from the DPR, PPPRA, PPMC, NEITI, NA, MOMC, IOMC and TU. The cross-tabulation confirmed that the divergence of views from the respondents of the PEF and other groups (i.e. DPR, PPMC, NA and MOMC) are due to the strength of the agreement: 69.2%, 90.9%, 53.9%, 44.4%, 60%, 37.5% and 36.4% of the respondents from the DPR, PEF, PPMC, NA, MOMC, IOMC and PPPRA respectively agreed. Only the respondents from the CS (42.9%) disagreed with the statement, while 50% and 40% of the respondents from the TU and NEITI held a neutral position.

The perception of the respondents from the NA and NEITI appropriately justified the agreement voiced because they have the legal authority to demand information from any regulatory agency; as such they are in the best position to independently assess the PEF disclosure practice than any other group. Based on this it could be argued that the PEF provides the NA with information concerning price equalisation of petroleum products.

6.4.2.3.6 The Petroleum Equalisation Fund audits all bridging claims relating to the transportation of petroleum products.

The descriptive statistics test in Table 6.15 show respondent perceptions in relation to the above statement. Out of the 102 responses recorded, 57.9% strongly agreed, 21.5% strongly disagreed and 20.6% were neutral. Therefore, with a mean score of 3.53 and a median score of 4.00, on average, it can be said that the respondents agreed that the PEF audits all bridging claims relating to the transportation of petroleum products. To justify accountability practice, all expenditure is required to be audited by regulators (Gilardi, 2008; World Bank, 2004).

Table 6.16 discloses that the perception of the respondents from the PPMC differs from four groups: the DPR, PEF, CS and TU. In addition, the cross-tabulation test reveals that 61.6% of the respondents from the PPMC disagreed. On the other hand, 92.3%, 90.9%, 42.9% and 60% of the respondents from the DPR, PEF, CS, and TU respectively agreed with statement. Consequently, it can be said that the groups which agreed are in a better position to understand whether or not the PEF audits all bridging claims. Since all claims need to be verified by the DPR and PEF prior to being paid out, no company will receive payment until it has submitted documents to the auditors to clarify the distribution of petroleum products (PEF, 2012; Gillies, 2009). The CS and TU could also be well-informed given that they represent the interests of the consumers. This would signify that the PEF does audit all bridging claims relating to the transportation of petroleum products.

6.4.2.3.7 The Petroleum Equalisation Fund follows due process relating to the payment of bridging claims

The above statement sought respondent views on whether due process, relating to the payment of bridging claims, is adhered to. From the descriptive statistics test, it can be said that the overall mean and the median scores of 3.27 and 3.00 indicate a neutral position. Of the 102 responses recorded, 50 respondents strongly agreed, 31 respondents strongly disagreed and 21 of the respondents were neutral.

The tests disclosed that 84.6% and 90.9% of the respondents from the DPR and the PEF agree that the PEF follows due process relating to the payment of bridging

claims. However, 45.5%, 53.9%, 50% 71.4% and 60% of respondents from the PPPRA, PPMC, NEITI, CS and TU respectively disagreed. The disagreement perception could be more appropriate because it is consistent with the findings of the federal government, among others.[20] Hence it can be concluded that the PEF does not follow due process relating to the payment of bridging claims.

6.4.2.3.8 The Petroleum Equalisation Fund discloses all significant discovered malpractices relating to bridging claims

Analysis of Table 6.15 reveals that out of the 102 responses recorded, 46 respondents (44.1%) strongly agreed and 38 (37.2%) strongly disagreed with the statement, while 16 (18.6%) were neutral. The overall mean and median score of 3.14 and 3.00 indicate a neutral position. Respondent opinions were further subjected to a Mann-Whitney test and no differences in the way the respondents perceived the statement were detected. One possible reason for this could be the fact that various audit reports discovered significant malpractices in the sector (NA, 2012). In line with this assertion, it is appropriate to argue that the PEF does not disclose any malpractice exposed in the sector.

6.4.2.3.9 The Petroleum Equalisation Fund discloses all the revenue it generates relating to the registration of transporters

Respondent views were sought on whether the PEF discloses all the revenue it generates relating to the registration of transporters. As indicated by the descriptive statistics test results in Table 6.15, overall the respondent groups tended towards agreement, as justified by the mean and median score of 3.24 and 3.00 respectively. In addition, out of the 102 responses recorded, 43 respondents strongly agreed, 33 strongly disagreed and 26 were neutral.

[20] According to the Ministry of Finance, payments are being made to marketers with no issues against their names. Those with discrepancies and those that have been indicted by the committee would have to have their documents verified by the auditor before payments could be made (Imoukhede-led Committee Report, 2012).

The Mann-Whitney tests indicate that the DPR, PPPRA and PEF position varied from that of five groups: the PPMC, MOMC, CS, IOMC and NEITI. The cross-tabulation shows that the discrepancy that exists between the PEF and DPR, PPPRA results from the level of agreement. However, 61.6%, 45.5% and 90.9% of the respondents from the DPR, PPPRA and PEF respectively were in agreement. One possible reason for such a result could be that if the PEF, DPR and PPPRA disagreed with the statement it might have justified the allegation that as regulators they do not declare generated revenue (NA, 2012).

In contrast, 61.6%, 40%, 42.9%, 37.5% and 40%, of the respondents from the PPMC, MOMC, CS, IOMC and NEITI respectively disagreed. The groups who disagreed are in a better position to determine whether the PEF discloses revenue because the MOMC, IOMC, as regulated companies, are aware of how much they paid the PEF as revenue, and the NEITI, with a legislative mandate, audits the PEF incomes. As such they are in a better position to provide an autonomous assessment of whether the PEF discloses generated revenue. It appears that the PEF do not disclose revenue generated.

In summary, the research sub-hypothesis HO_2 is accepted in relation to the regulatory accountability of DPR. This is because the findings have determined that the DPR does not disclose the amount of locally refined petroleum products and imported products. In addition, the DPR does not disclose any malpractice in the sector. Moreover, the DPR does not keep the general public and NA informed about the process regarding the issue of import and internally generated revenue respectively, which are major indicators of accountability practice.

In relation to PPPRA, the research sub-hypothesis HO_2 is accepted. This is because out of the nine accountability indicators tested, seven were rejected by the respondents. Therefore, it can be concluded that the PPPRA lacks substantive accountability.

In relation to PEF, the research sub-hypothesis HO_2 is rejected, because out of the nine indicators used to measure the status of accountability practice by the PEF, the respondents agree with five. This shows that the PEF has an element of

accountability, a significant mechanism of good regulatory governance regime (Cubbin and Stern, 2005; OECD, 2002).

Table 6.17: Summary of the number of differences between groups in relation to Nigeria's downstream regulatory accountability (this summarises tables 6.12, 6.14 and 6.16)

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1	Total
D_1	**n/a**	4	6	7	8	1	1	1	9	5	**42**
P_1	4	**n/a**	10	9	9	2	3	3	7	4	**49**
P_2	6	10	**n/a**	9	8	5	4	5	12	9	**68**
P_3	7	9	9	**n/a**	1	2	3	0	2	0	**33**
N_1	8	9	8	1	**n/a**	1	4	0	1	0	**32**
N_2	1	2	5	2	1	**n/a**	0	1	2	3	**17**
M_1	1	3	4	3	4	0	**n/a**	1	2	1	**19**
I_1	1	3	5	0	0	1	1	**n/a**	1	0	**12**
C_1	9	7	12	2	1	2	2	1	**n/a**	0	**36**
T_1	5	4	9	0	0	3	1	0	0	**n/a**	**22**

Note: D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)
N/A: Not Applicable

From Table 6.17 it can be seen that the PEF differed with other groups significantly 68 times, while PPPRA and DPR recorded 49 and 42 significant differences, respectively. The overall summary of the findings in relation to the second hypothesis tested are that Nigeria's downstream regulatory agencies are not always consistent in relation to the accountability practice which is one of the prerequisite for ensuring good regulatory governance system. The analysis further revealed that almost all activities involving financial information are not being accounted for properly by regulatory agencies. Moreover, the findings also showed the need for urgent and adequate accountability practice among Nigeria's downstream regulatory agencies.

6.4.3 Regulatory transparency

As stated in Section 2.5.3, transparency is an essential element of good regulatory governance (Cubbin and Stern, 2006; D'souza, 2001). This section analyses the transparency practice of Nigeria's downstream regulatory agencies. In order to assist the analysis, research hypothesis HO_3 was developed.

HO_3 – Inadequate transparency mechanisms are in place and these affect the regulatory governance practice of Nigeria's downstream regulatory agencies;

Transparency is one of the major ways in which a regulatory agency's goals, decisions, underlying principles, data and other information, as well as terms of accountability are provided to the public in a comprehensive, accessible and timely manner (De Geest, 1992). The three Nigerian downstream regulatory agencies (DPR, PPPRA and PEF) were tested under the above research hypotheses to carefully test the questions relating to their transparency practices.

6.4.3.1 Perceptions relating to the transparency practice of the Department of Petroleum Resources;

As noted earlier in Section 3.4.1, the DPR is one of the three regulatory agencies mandated to regulate Nigeria's downstream petroleum sector. Its mandate includes designing and implementing regulations for the welfare of general public. This informed the decision to employ the Public Interest Theory of Regulation in this study to determine whether the DPR are transparent in discharging their duties. Taking into account this theory of regulation and transparency as a framework for good regulatory governance practice, five statements were developed in order to ascertain the perceptions of the respondents relating to the DPR transparency practice.

In the descriptive statistic test, 102 responses were recorded in each of the five statements, as shown in Table 6.18 below.

Table 6.18: Descriptive frequencies of the Department of Petroleum Resources' transparency practice

Statements	M	MD	SD	D	N	A	SA	TR
a) The Department of Petroleum Resources consults all legitimate stakeholders in major regulatory decisions.	2.79	3.00	25 (24.5)	23 (22.5)	17 (16.7)	22 (21.6)	15 (14.7)	102 (100)
b) The methods used for the measurement of petroleum products by the Department of Petroleum Resources are transparent.	3.21	3.00	10 (9.8)	18 (17.6)	31 (30.4)	27 (26.5)	16 (15.7)	102 (100)
c) The methods used by the Department of Petroleum Resources for the issue of import licenses to regulated companies are transparent.	3.21	3.00	8 (7.8)	22 (21.6)	28 (27.5)	29 (28.4)	15 (14.7)	102 (100)

d) The methods used by the Department of Petroleum Resources in monitoring the quantity of imported petroleum products, are transparent.	3.19	3.00	11 (10.8)	17 (16.7)	29 (28.4)	32 (31.4)	13 (12.7)	102 (100)
e) When the Department of Petroleum Resources refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.	2.92	3.00	13 (12.7)	25 (24.5)	30 (29.4)	25 (24.5)	9 (8.8)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.3.1.1 The Department of Petroleum Resources consults all legitimate stakeholders in major regulatory decisions

Consultation is an important aspect of regulatory transparency (Baldwin et al., 2012). To achieve regulatory governance objectives, regulatory authorities should involve or consult all legitimate stakeholders in regulatory decisions. Hence it was necessary to question respondents about the above statement. The overall mean and median scores of 2.79 and 3.00 shown in Table 6.18 indicate that the respondents tend towards disagreement. Moreover, out of the 102 responses recorded, 37 respondents strongly agreed with the statement, 48 strongly disagreed and 17 took a neutral position. The Mann-Whitney tests highlighted no differences among the groups.

Table 6.19: Mann-Whitney test relating to the Department of Petroleum Resources' transparency practice

a) The Department of Petroleum Resources consults all legitimate stakeholders in major regulatory decisions.								
NIL								
b) The methods used by the Department of Petroleum Resources for the measurement of petroleum products are transparent.								
Groups	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	.000	.000	.000	.000	.000	.001	.000	.000	.000
c) The methods used by the Department of Petroleum Resources for the issue of import licenses to regulated companies are transparent.								
Groups								**P_3**	**N_1**
D_1								.004	.024
d) The methods used by the Department of Petroleum Resources in monitoring the amount of imported petroleum products are transparent.								
Groups	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**C_1**	**T_1**	
D_1	.006	.004	.005	.024	.024	.004	.003	
M_1		.030				.030	.019	
e) When the Department of Petroleum Resources refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.								
Groups					**P_3**	**N_1**	**C_1**	**T_1**

D_1	.037	.020	.017	.000
P_1				.009

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

From Table 6.19 it is evident there was a significant difference in the way the respondent groups reacted to the statement. One possible reason for this might be related to the assumption that the DPR does not involve legitimate stakeholders in decision-making processes (Ehinomen and Adeleke, 2012). Given that the overall mean score of 2.79 suggests disagreement and that the majority of the respondents (47%) disagreed with the statement that the DPR consults all legitimate stakeholders in major regulatory decisions, the implication is that the DPR does not consult legitimate stakeholders on major regulatory decisions.

6.4.3.1.2 The methods used for the measurement of petroleum products by the Department of Petroleum Resources are transparent

The DPR is responsible for measuring the quantity and quality of petroleum products used in the country (DPR, 2102). It was because of this, and because transparency as part of regulatory governance framework is so important, that this statement was developed. In Table 6.18, the descriptive frequencies reveal that out of the 102 responses recorded, 43 of the respondents strongly agreed with the statement, 31 were neutral and 28 strongly disagreed. Since the mean and median scores are 3.21 and 3.00, it would seem likely that the respondents are inclined towards the agree position. A Mann-Whitney test was run and the data presented in Table 6.19 shows significant differences between the groups.

As disclosed by the cross-tabulation tests, the differences between the DPR, PPMC and MOMC are as a result of the strength of agreement. The test also reveals that 100%, 61.6% and 60% of the respondents from the DPR, PPMC and MOMC respectively agreed. On the other hand, 45.5%, 54.5% and 60% of the PPPRA, PEF and TU respectively were indecisive and 70%, 44.4%, 50% and 57.2% of the respondents from the NEITI, NA, IOMC and CS respectively disagreed. It is probably appropriate to concur with the position of the NEITI, NA, IOMC, and CS

who disagreed, because they are best placed to be informed about this issue. The NEITI, CS and NA have the legitimate right to check the practice of transparency by regulatory agencies. Moreover, the disagreement trend is in line with the assertion that some oil marketers are selling adulterated petroleum products because of the failure of the DPR to ascertain the quality of the products (Anthony and Ijewere, 2011). This clearly indicates that the methods used by the DPR to measure petroleum products are not transparent.

6.4.3.1.3 The methods used for the issue of import licenses to regulated companies by the Department of Petroleum Resources are transparent

It is important for this study to determine whether there is transparency in the process of the issuance of import licences by the DPR. This is because the manner in which import permit licenses are awarded could determine how business practices will best take place. It was discovered from the descriptive statistics test results in Table 6.18 that out of the 102 responses recorded, 44 respondents strongly agreed with the statement, 28 were neutral and 30 strongly disagreed. Since the mean and median scores of 3.21 and 3.00 indicate that the respondents tend towards agreement, Mann-Whitney tests were run.

Table 6.18 shows that the perceptions of DPR, PEF and MOMC differ from that of the PPMC, NEITI, IOMC and TU. The respondents from the PEF disagreed with the opinions of the PPPRA, IOMC, CS and TU. From the cross-tabulation tests it was ascertained that 100%, 72.8% and 60% of the respondents from the DPR, PEF and MOMC agreed with the statement. The reason for this agreement could be that the DPR as regulators and the MOMC as the companies that obtain import licenses might choose to argue that they are undertaking their work in a transparent fashion. On the other hand, 63.6%, 44.4%, and 57.1% of the respondents from the PPPRA, NA and CS respectively held a neutral position and 46.2%, 50%, 62.5% and 50% of the respondents from the PPMC, NEITI, IOMC and TU resepctively disagreed that the methods used by the DPR for the issue of import licenses to regulated companies are transparent. The disagreement voiced by the PPMC, NEITI, IOMC and TU are in line with the NEITI and the Faruk Lawal-led audit reports which state that that DPR

is not transparent in the issuance of import licenses.[21] These factors signify that the DRP is not transparent in relation to the above statement.

6.4.3.1.4 The methods used by the Department of Petroleum Resources in monitoring the amount of imported petroleum products are transparent

Respondent perceptions were tested in relation to the above statement. The rationale for asking this question is that the DPR is responsible for ascertaining the quantity of petroleum products imported into the country. From Table 6.18 it can be seen that 44.1% of the respondents strongly agreed with the statement, 28.4% were neutral and the remaining 27.5% strongly disagreed. Overall, the groups were neutral (mean = 3.19 and median = 3.00).

However, the Mann-Whitney test results, in Table 6.19, reveal that the DPR's perception differed from that of the NEITI and PPMC. In addition, the cross-tabulation test showed that 84.7% of the DPR agreed that the methods used products by the DPR to monitor the quantity of imported petroleum are transparent. This is not surprising because the DPR would hardly admit that it is not transparent in performing its regulatory duties.

In contrast, 60% and 46.2% of the respondents from the NEITI and PPMC disagreed with the statement. Moreover, as the NEITI is in charge of ensuring transparency in the oil sector, it can be said that rejection of this hypothesis is in line with the findings of the NA that certain marketers received payments (subsidy) and that the products were not supplied to the country.[22] This clearly describes a lack of transparency in the methods used by the DPR, in monitoring the quantity of imported petroleum products.

---

[21] These companies, according to investigations made by the National Assembly, were blacklisted due to their failure to meet the guidelines required for fuel importers in Nigeria. The development comes as a result of the Farouk Lawan led ad-hoc Committee on Subsidy Regime investigation (Subsidy Report, 2012).

[22] Over N230.184 billion was paid to the marketers on a PMS volume of 3,262,960,225 litres which, based on the records made available as part of this study was not supplied (National Assembly Subsidy Report, 2012).

6.4.3.1.5 When the Department of Petroleum Resources refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified

Respondent opinions were sought in respect to the statement above. It is imperative for the purpose of transparency that when regulators do not provide certain information, justification for such action should be explained. In Table 6.18, it can be seen that out of the 102 responses recorded, 30 respondents are neutral with respect to the statement, 34 strongly agreed and 38 strongly disagreed. With the overall respondent groups tending towards the disagreement position, as indicated by the mean of 2.92 and median of 3.00, Mann-Whitney tests were run to determine whether significant differences existed among the respondent groups.

From the results shown in Table 6.19, it is evident that the DPR's perception differs from four groups: the PPMC, NEITI, CS and TU. The opinion of the PEF varied from that of the NEITI, CS and TU. Differences were also discovered between the TU respondents and PPPRA as well as the MOMC. The cross-tabulation test revealed that 53.9% and 54.5% of the respondents from the DPR and PEF respectively are in agreement that when the DPR refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified. However, 45.5%, and 50% of the respondents from the PPPRA and MOMC held a neutral position.

In contrast, 53.9%, 60%, 57.2% and 80% of the PPMC, NEITI, CS and TU respondents respectively disagreed with the statement. The disagreements expressed by the PPMC, NEITI, CS and TU respondents could be appropriate, as recently the NA alleged that revenue generating agencies, including the DPR, do not disclose information or justify the reasons for the non-disclosure of what they generated in the course of their duties (National Assembly, 2012). Therefore, this shows that the DPR does not justify the rationale for non-disclosure of information.

6.4.3.2 Perceptions relating to the transparency practice of the Petroleum Product Pricing Regulatory Agency

As stated in Section 3.4.2, the PPPRA is the regulatory agency with the legislative mandate to regulate the pricing of petroleum products in the downstream sector. The rationale for establishing the agency is to stabilise the price of the products by making it affordable to the general public. Accordingly, the Public Interest Theory of regulation was adopted in this study. In line with the theory and transparency as mechanisms of good regulatory governance practice, four statements were carefully worded in order to help determine the perceptions of the respondents on whether the PPPRA practices substantive transparency in regulatory governance.

Table 6.20 shows the descriptive frequencies and percentages of the respondents' views relating to the PPPRA's transparency practice: 102 responses were recorded in each of the four statements respectively.

Table 6.20: Descriptive frequencies and percentages concerning the Petroleum Product Pricing Regulatory Agency's transparency practice

Statements	M	MD	SD	D	N	A	SA	TR
a) The Petroleum Products Pricing Regulatory Agency consults all legitimate stakeholders on major regulatory decisions.	3.06	3.50	16 (15.7)	23 (22.5)	12 (11.8)	41 (40.2)	10 (9.8)	102 (100)
b) The methods used by the Petroleum Products Pricing Regulatory Agency in reviewing the price of petroleum products, are transparent.	3.16	3.00	10 (9.8)	17 (16.7)	31 (30.4)	35 (34.3)	9 (8.8)	102 (100)
c) The methods used by the Petroleum Products Pricing Regulatory Agency in determining the actual price of petroleum products are transparent.	3.21	3.00	6 (5.9)	26 (25.5)	26 (25.5)	29 (28.4)	15 (14.7)	102 (100)
d) When the Petroleum Products Pricing Regulatory Agency refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.	3.25	3.00	8 (7.8)	18 (17.6)	33 (32.4)	27 (26.5)	16 (15.7)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.3.2.1 The Petroleum Products Pricing Regulatory Agency consults all legitimate stakeholders on major regulatory decisions

Appropriate consultation of all parties contributes to the effectiveness of the regulatory process, improves the quality of regulatory decisions and increases the possibility of the regulator receiving overwhelming support and co-operation from all stakeholders (Zhang and Thomas, 2009). This statement was developed based on this assertion. From Table 6.20 it is clear that the overall mean of 3.06 and median of 3.50 indicate that the respondents tend to agreement. The test further showed that out of the 102 responses recorded, 51 respondents strongly agreed, 39 strongly disagreed, while 12 took a neutral position. A different test was also carried out to ascertain if significant differences existed between the respondent groups.

From Table 6.21 it is clear that the NEITI, NA, CS, TU and PPMC disagreed with the position held by the MOMC and IOMC. The cross-tabulation test revealed that 60% and 62.5% of the respondents from the MOMC and IOMC respectively agreed that the PPPRA consults all legitimate stakeholders on major regulatory decisions. One possible reason for this could be that the MOMC and IOMC, as regulated companies, are constantly in contact with the PPPRA and as such, the PPPRA might consult them on regulatory decisions.

Table 6.21: Mann-Whitney test relating to the Petroleum Product Pricing Regulatory Agency's regulatory transparency practice

a) The Petroleum Products Pricing Regulatory Agency consults all legitimate stakeholders in major regulatory decisions.					
Groups	**N_1**	**T_1**	**N_2**	**C_1**	
I_1	.011	.009	.003	.050	
M_1			.029		
b) The methods used by the Petroleum Products Pricing Regulatory Agency in reviewing the price of petroleum products are transparent.					
Groups	**P_1**	**P_2**	**M_1**	**C_1**	**T_1**
P_3	.015		.032		
N_1	.005	.019	.008		
N_2	.001	.003	.001	.007	.006
T_1	.014		.025		
c) The methods used by the Petroleum Products Pricing Regulatory Agency in determining the actual price of petroleum products are transparent.					
Groups			**N_1**	**C_1**	**N_2**
P_1			.015	.035	
P_2			.005	.011	.031
M_1			.020	.043	

d) When the Petroleum Products Pricing Regulatory Agency refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.					
Groups	**D_1**	**P_1**	**P_2**	**P_3**	**I_1**
N_1	.005	.001	.002	.029	.008

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

In contrast, 60%, 88.9%, 57.2% 70% and 46.2% of the respondents from the NEITI, NA, CS, TU and PPMC respectively overwhelmingly disagreed with the statement. These disagreements could be deemed appropriate, based on the fact that the NEITI, NA, CS, TU and PPMC are also legitimate stakeholders that need to be consulted by the regulators before they make a major decision. Moreover, the PPPRA was accused of not widely consulting stakeholders about their decision to increase the price of petroleum products in 2012 (Nuhu-Koko, 2012). Therefore, it is argued that the PPPRA does not consult stakeholders when making major regulatory decisions.

6.4.3.2.2 The methods used by the Petroleum Products Pricing Regulatory Agency in reviewing the price of petroleum products are transparent

Over the years the price of petroleum products is constantly adjusted by the PPPRA (See Section 3.5.1 for details). Therefore, it is necessary to ascertain whether these adjustments in the pump price are transparent. Table 6.20 shows that out of the 102 responses recorded, 31 respondents were neutral, 44 strongly agreed and 27 strongly disagreed with the statement. Overall, the respondent groups are neutral, as revealed by the mean and median of 3.21 and 3.00 respectively.

Table 6.21 presents the results which exhibit a significant difference of equal to, or less than the alpha value of 0.05. Cross-tabulation further reveals that 81.8%, 63.6% and 70% of the respondents from the PPPRA, PEF and MOMC respectively agreed with the statement. The reason for this agreement could be associated with the assertion that the PPPRA is trying to deregulate the price of petroleum products (PPPRA, 2012). In contrast, 57.1% and 80% of the respondents from the CS and TU remained indecisive.

Of the respondents from the NEITI, NA and PPMC, 50%, 55.6% and 46.2% disagreed with the statement. This disagreement is in line with the assertion that the PPPRA pricing template is not realistic in determining the actual price of petroleum products (Ojameruaye, 2011; Yossifov et al., 2003). Therefore, this implies that the methods used in reviewing the price of the petroleum products are not transparent.

6.4.3.2.3 The methods used by the Petroleum Products Pricing Regulatory Agency in determining the actual price of petroleum products are transparent

The pricing of petroleum products has a direct impact on the general public. Therefore, the perceptions of respondents are relevant in relation to the above assertion. In Table 6.20 the descriptive statistics disclose that out of the 102 responses recorded, 32 of the respondents strongly disagreed with the statement, 26 were neutral and 44 strongly agreed. In general, the respondent groups were in agreement, as revealed by the mean of 3.21 and the median of 3.00.

Table 6.21 presents the results of the Mann-Whitney tests for the differences present between the respondent groups. The table shows that the PPPRA and MOMC's perception differs from that of the NEITI and CS. Similarly, the PEF's opinion varies from that of the NEITI, CS, and NA. Furthermore, the cross-tabulation test shows that 72.7%, 63.6% and 60% of the respondents from the PPPRA, PEF, and MOMC respectively agreed that the methods used in determining the actual price of petroleum products by the Petroleum Products Pricing Regulatory Agency are transparent. However, 55.6% of the respondents from the NA held a neutral view.

On the other hand, 71.4% and 60% the respondents from the CS and NEITI disagreed. The disagreements are closely related to the assertion that the PPPRA does not act sincerely when using a pricing template to determine the price of petroleum products in the country (NA, 2012). Given this evidence, the disagreements could be considered the most appropriate, since the NEITI has the power to independently assess the transparency practice in the sector. It is therefore concluded that the PPPRA is not transparent in determining the price of petroleum products.

6.4.3.2.4 When the Petroleum Products Pricing Regulatory Agency refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified

It is relevant to seek the perceptions of respondents in relation to the above statement, the reason being is that it is essential that regulatory agencies justify the reason for refraining from disclosing confidential information (Baldwin et al., 2012; Nicoletti, and Scarpetta, 2003). Table 6.20 presents the descriptive frequencies of the respondents and the overall mean of 3.25 and the median of 3.00 show that the respondents tend towards agreement. In addition, out of the 102 responses recorded, 43 respondents strongly agreed, 33 were neutral and 26 strongly disagreed.

From the Mann-Whitney tests it can be deduced that the opinion voiced by the NEITI respondents differed from that of the DPR, PPPRA, PEF, PPMC and IOMC respondents, as shown in Table 6.21. The cross tabulation tests reveal that 61.6%, 54.6%, 63.6% and 62.5% of the respondents from the DPR, PPPRA, PEF, and IOMC respectively agreed that when the PPPRA refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified. The position of these groups (the DPR, PPPRA, PEF and IOMC) contradicts the findings of the NA that the PPPRA refrains from revealing its revenues and no reason is given for the non-disclosure (NA, 2012; Neumayer, 2002). This assertion is consistent with 80% of the respondents from the NEITI who disagreed with the statement.

In addition, the disagreement indicated by the NEITI could be seen as being more appropriate because it is the body established by law to ensure transparency in the oil sector. As such, it is in a better position to provide an independent assessment on whether the PPPRA justifies the non-disclosure of confidential information. Therefore, this would suggest that the PPPRA does not justify the reasons for non-disclosure of information.

6.4.3.3 Perceptions relating to the transparency practice of the Petroleum Equalisation Fund

This section analyses the findings relating to the transparency practice of the PEF. Guided by the Public Interest Theory of regulation and the regulatory transparency as a principle of good regulatory governance practice, three statements were developed in order to seek the respondents' views regarding transparency practice of the PEF.

Table 6.22 shows the descriptive frequencies and percentages of respondent views relating to the PEF's transparency practice: 102 responses were recorded for each of the three statements.

Table 6.22: Descriptive frequencies of the respondents' views relating to the Petroleum Equalisation Fund transparency practice

Statements	M	MD	SD	D	N	A	SA	TR
a) The Petroleum Equalisation Fund consults all legitimate stakeholders on major decisions relating to price equalisation.	3.13	3.00	11 (10.8)	29 (28.4)	15 (14.7)	30 (29.4)	17 (16.7)	102 (100)
b) The methods used in determining the actual cost of bridging the petroleum products by the Petroleum Equalisation Fund are transparent.	3.23	3.00	7 (6.9)	24 (23.5)	28 (27.5)	25 (24.5)	18 (17.6)	102 (100)
c) When the Petroleum Equalisation Fund refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.	2.96	3.00	9 (8.8)	27 (26.5)	33 (32.4)	25 (24.5)	8 (7.8)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.3.3.1 The Petroleum Equalisation Fund consults all legitimate stakeholders on major decisions relating to price equalisation

This statement sought respondent views on whether the PEF consults all legitimate stakeholders on major decisions relating to price equalisation. Jalilian et al. (2007) emphasises the need for consultation which helps to determine a regulatory system that is transparent and predictable. The findings presented in Table 6.22 show that out of the 102 responses recorded, 47 respondents strongly agreed, 15 were neutral

and 40 strongly disagreed. Overall, the groups agreed, as revealed by the mean and median scores of 3.13 and 3.00 respectively. Hence, Mann-Whitney tests were run.

Table 6.23: Mann-Whitney test relating to the Petroleum Equalisation Fund's transparency practice

a) The Petroleum Equalisation Fund consults all legitimate stakeholders on major decisions relating to price equalisation.							
Groups	**P_1**	**P_3**	**D_1**	**M_1**	**I_1**	**C_1**	**T_1**
P_2	.001	.001	.001	.001	.007	.001	.001
N_2	.027	.005	.011	.004	.047	.028	
N_1		.033	.047	.013			
b) The methods used in determining the actual cost of bridging the petroleum products by the Petroleum Equalisation Fund are transparent.							
Groups						**M_1**	**I_1**
N_1						.009	.015
c) When the Petroleum Equalisation Fund refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.							
Groups					**P_3**	**D_1**	**N_2**	**T_1**
N_1						.007		.002
T_1					.030		.038	

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

The differences that existed between the respondent groups are shown in Table 6.23. As disclosed by the cross-tabulation tests, 53.9%, 90.9%, 46.2%, 80, 50% and 71.4% of the respondents from the DPR, PEF, PPMC, MOMC, IOMC, and CS respectively agreed with the statement. However, 70%, 88.9%, 36.4% and 70% of the respondents from the NEITI, NA and TU respectively disagreed with the statement that the PEF consults all legitimate stakeholders on major decisions relating to price equalisation.

Since consultation is one of the components of transparency (Gilardi, 2005; Jacobs, 2004), the disagreement voiced by the NEITI, NA and TU could be appropriate because the NEITI has the constitutional mandate to ensure that all oil and gas related matters in Nigeria are transparent, and the NA is the country's highest legislative body and has the authority to ensure that all agencies conduct their duties transparently. Hence it can be argued that the PEF does not consult all legitimate stakeholders about major decisions relating to price equalisation.

6.4.3.3.2 The methods used in determining the actual cost of bridging the petroleum products by the Petroleum Equalisation Fund are transparent

Table 6.22 shows the descriptive frequencies of the respondents. The mean of 3.23 and the median of 3.00 indicate that the respondents tend towards agreeing with the statement. Out of the total responses recorded, 43 respondents strongly agreed, 28 held neutral positions and 31 strongly disagreed. When respondent perceptions were subjected to the Mann-Whitney test, differences existed among groups, as presented in Table 6.23. The cross-tabulation test ascertained that 60% and 50% of the respondents from the MOMC, and IOMC overwhelmingly agreed. But in contrast, 80% of the respondents from the NEITI disagreed, and as the organisation has the power to ascertain transparency practice in the country, and coupled with the fact that the price of petroleum products in other parts of the country differ because of the failure to ascertain the actual bridging costs, (Dolgin, 2009) it can be concluded that the methods used to determine the actual cost of bridging are not transparent.

6.4.3.3.3 When the Petroleum Equalisation Fund refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified

When the above statement was tested using descriptive statistics, it was discovered that out of the 102 responses recorded, 33 respondents expressed a neutral position, 36 strongly disagreed and 33 strongly agreed, as presented in Table 6.22. Overall the respondent groups were inclined towards disagreement, as indicated by the mean of 2.96 and the median of 3.00.

The results from the Mann-Whitney tests are presented in Table 6.23 and show the differences between the respondent groups. Cross tabulation tests reveal that 61.5% and 60% of the respondents from the DPR and TU were in agreement. On the other hand, 46.2%, 70% and 44.4% of the respondents from PPMC, NEITI and NA respectively disagreed. The position of the groups that disagreed could be accurate given that the primary responsibility of the NEITI is to ensure accountability and transparency in the oil sector; hence it should be better informed than the other groups. This would indicate that the PEF does not justify the rationale for non-disclosure of confidential information relating to its activities.

In summary, the research sub-hypothesis HO_3 is accepted in relation to DPR's regulatory transparency. This is because the respondent replies to all five indicators tested confirmed that the actions in the statements are not practiced by the DPR. Consequently, a lack of transparency is one of the major impediments to attaining a good regulatory governance regime (Dublin-Green et al., 1998). Similarly, the research sub-hypothesis HO_3 is accepted in relation to PPPRA. This is because the four methods used to measure the status of the PPPRA's transparency practice indicated that openness, in relation to regulatory activities, is non-existent. The findings relating to PEF's regulatory transparency are also accepted (the research sub-hypothesis HO_3), because it was evident from the findings above that all three statement indicators used to ascertain the status of the PEF's transparency practice were rejected by the respondents.

Table 6.24 shows that DPR and NEITI significantly differed with other groups 27 and 23 times respectively. Hence, the findings from respondents in relation to the transparency practice in the downstream petroleum sector indicate a level of non-compliance among the regulators. In addition, the findings show that the legitimate stakeholders are only consulted on some issues that are of less concern, for example issues that have to do with revenue generation for the agencies. On the other hand, stakeholders are hardly consulted on critical issues that have to do with new regulation, for example if there is a change in the price of petroleum products. Furthermore, when the regulatory agencies refrain from disclosing confidential information they hardly ever justify the reason for the non-disclosure. In addition, the finding revealed an almost complete absence of due process in the award of import permits, payments of bridging and subsidy claims etc. Consequently, this negatively affects the regulatory governance practice of Nigeria's downstream sector. The results further point out the need for adequate consultations, due process and openness in carrying out all regulatory activities by the regulatory authorities for the welfare of the general public.

Table 6.24: Summary of the number of differences between groups in relation to the Nigeria's downstream regulatory transparency (this summarises table 6.19, 6.21 and 6.23)

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1	Total
D_1	**n/a**	2	3	4	7	3	1	1	3	3	**27**
P_1	2	**n/a**	1	1	3	2	0	0	1	2	**12**
P_2	3	1	**n/a**	1	3	2	2	1	2	1	**16**
P_3	4	1	1	**n/a**	2	1	1	0	0	1	**11**
N_1	7	3	3	2	**n/a**	0	4	3	0	1	**23**
N_2	3	2	2	1	0	**n/a**	3	2	2	2	**17**
M_1	1	0	2	1	4	3	**n/a**	0	2	2	**15**
I_1	1	0	1	0	3	2	0	**n/a**	0	0	**7**
C_1	3	1	2	0	0	2	2	0	**n/a**	0	**10**
T_1	3	2	1	1	1	2	2	0	0	**n/a**	**12**

Note: D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)
N/A: Not Applicable

6.4.4 Regulatory expertise

As noted in Section 2.5.4, expertise is a fundamental aspect of regulatory governance framework. Therefore, this section analyses the last research hypothesis where respondents were asked to express their opinion regarding the regulatory expertise of Nigeria's downstream regulatory agencies.

HO_4 – Lack of required expertise affects the regulatory governance practice of Nigeria's downstream regulatory agencies

To achieve good regulatory governance it is imperative that the regulators are highly trained in the field of regulation and governance (Duso and Röller, 2003) and have the expertise to formulate and implement a good regulatory governance system (Djankov, 2002). Hence hypothesis HO_4 was tested in three different regulatory agencies (DPR, PPPRA and PEF) in order to ascertain the expertise of Nigeria's downstream regulatory agencies in relation to regulatory governance practice.

6.4.4.1 Perceptions relating regulatory governance expertise of the Department of Petroleum Resources

Guided by Public Interest Theory of regulation and considering regulatory expertise as a regulatory governance mechanism, six statements were developed to ascertain respondent opinions on whether the DPR has substantive expertise in regulatory governance. Table 6.25 below shows the descriptive frequencies of the respondent views: 102 responses for each of the six statements were recorded.

Table 6.25: Descriptive frequencies of the Department of Petroleum Resources' expertise in regulatory governance

Statements	M	MD	SD	D	N	A	SA	TR
a) The Department of Petroleum Resources has the capacity to regulate the downstream petroleum sector.	3.20	3.50	16 (15.7)	17 (16.7)	18 (17.6)	33 (32.4)	18 (17.6	102 (100)
b) The Department of Petroleum Resources deploys skilled personnel to conduct its downstream regulatory functions.	3.54	4.00	3 (2.9)	18 (17.6)	21 (20.6)	41 (40.2)	19 (18.6)	102 (100)
c) Staff from the Department of Petroleum Resources receive necessary training to ensure the implementation of quality regulations in the downstream sector.	3.39	4.00	3 (2.9)	25 (24.5)	19 (18.6)	39 (38.2)	16 (15.7)	102 (100)
d) The Department of Petroleum Resources is effective in putting in place a framework for good regulatory governance.	3.37	4.00	6 (5.9)	18 (17.6)	24 (23.5)	40 (39.5)	14 (13.7)	102 (100)
e) The appointment of the executive management of the Department of Petroleum Resources is primarily based on merit.	3.16	3.00	10 (9.8)	25 (25.5)	26 (25.5)	21 (20.6)	20 (19.6)	102 (100)
f) The personnel of the Department of Petroleum Resources discharge their regulatory duties in a professional manner.	3.35	4.00	6 (5.9)	24 (23.5)	17 (16.7)	38 (37.3)	17 (16.7)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.4.1.1 The Department of Petroleum Resources has the capacity to regulate the downstream petroleum sector

The first statement sought respondent views on whether the DPR has the capacity to regulate the downstream petroleum sector. From Table 6.25 it can be seen that the overall mean and median of 3.20 and 3.50 indicate agreement. Out of the 102 responses recorded, 51 respondents were strongly in agreement, 18 held a neutral

view and 33 strongly disagreed. Mann-Whitney tests were run to ascertain whether there were any differences between the respondent groups.

Table 6.26: Mann-Whitney test relating to the Department of Petroleum Resources' regulatory governance expertise

a) The Department of Petroleum Resources has the capacity to regulate the downstream petroleum sector.

Groups	P_1	N_2	N_1	T_1
M_1	.004	.022	.037	.005
P_3	.008	.037		.012
I_1	.016	.040		.020

b) The Department of Petroleum Resources deploys skilled personnel to conduct its downstream regulatory functions.

Groups	P_1	P_2	N_1	C_1
D_1	.000	.005	.000	.015
M_1	.008		.010	
I_1	.033		.032	
P_3	.024		.027	

c) Staff from the Department of Petroleum Resources receive the necessary training to ensure the implementation of quality regulations in the downstream sector.

Groups	D_1	P_2	P_3	M_1
T_1	.002	.001	.012	.005

d) The Department of Petroleum Resources is effective in establishing a framework for good regulatory governance.

Groups	N_1	T_1
I_1		.001
M_1	.024	.031

e) The appointment of the executive management of the Department of Petroleum Resources is primarily based on merit.

Groups	P_1	N_1	C_1	T_1
P_2	.025	.027	.009	.006
M_1	.034		.046	.028

f) The personnel of the Department of Petroleum Resources discharge their regulatory duties in a professional manner.

NIL

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

A number of dissimilarities were apparent among the groups in relation to the question of whether the DPR has the capacity to regulate the downstream petroleum sector (see Table 6.26). The cross-tabulation test reveals that the NEITI was indecisive with 50% equally agreeing and disagreeing. The respondents from the PPPRA, NA and TU disagreed with 54.4%, 66.7% and 60% respectively. One possible reason for these results could be the assertion that the DPR has not

demonstrated enough ability to showcase its capacity to regulate the sector (NA, 2012).

In contrast, 84.6%, 80% and 75% of the respondents from the PPMC, MOMC and IOMC respectively agreed that the DPR has the capacity to regulate the downstream petroleum sector. The agreements could be appropriate given that the MOMC and IOMC, as regulated companies in the sector, are in a better position than any other group to determine whether the DPR has the capacity to regulate the sector. Similarly, the PPMC's opinion might be well-informed because it works hand in hand with the DPR – while the PPMC is in charge of marketing and distribution, the DPR monitors the distribution, quality and quantity of petroleum products. Therefore, this indicates that the DPR may have the capacity to regulate the sector.

6.4.4.1.2 The Department of Petroleum Resources deploys skilled personnel to conduct its downstream regulatory functions

Respondent perceptions were tested in relation to the above statement. From Table 6.25 it can be seen that the descriptive statistics test reveal that overall the respondent groups agreed, as indicated by the mean and median scores of 3.54 and 4.00 respectively. Out of the 102 respondents, 60 strongly agreed with the statement, 21 strongly disagreed and 21 were neutral.

The Mann-Whitney test results, presented in Table 6.26, illustrate the differences between the groups. Of the respondents from the PPPRA and NEITI, 45.5% and 50% respectively disagreed, according to the cross-tabulation test. In contrast, 100%, 81.8%, 81.9%, 80%, 65.5% and 42.9% of the DPR, PEF, PPMC, MOMC, IOMC and CS respondents respectively overwhelmingly agreed that the DPR deploys skilled personnel to conduct its downstream regulatory functions. The position of these respondent groups might be true given that two of the six are regulatory agencies (DPR and PEF) and two are regulated companies (MOMC, IOMC). Thus they are possibly in a better position to answer this question than the other groups. This would imply that the DPR deploys skilled personnel to conduct its downstream regulatory functions.

6.4.4.1.3 Staff from the Department of Petroleum Resources receive the necessary training to ensure the implementation of quality regulations in the downstream sector

Table 6.25 displays the descriptive statistics of the perceptions of respondents in relation to the above statement. Out of the 102 responses recorded, 55 strongly agreed, 28 were strongly in disagreement and 19 took a neutral position. Overall, the respondent groups agreed, as shown by the mean of 3.39 and the median of 4.00.

Table 6.26 reveals a number of differences between the respondent groups which were uncovered by the Mann-Whitney test. The cross-tabulation test showed that 80% of the TU respondents disagreed with the statement. In contrast, 92.3%, 90.9%, 69.3% and 90% of the DPR, PEF, PPMC and MOMC respondents respectively agreed that staff from the DPR do receive the necessary training to ensure the implementation of quality regulations in the downstream sector. Moreover, these groups are more likely to be better informed on this subject than any of the other groups, because the staff from the DPR, PEF, PPMC and MOMC work closely with one another. As such, it is concluded that the DPR staff do receive the required training.

6.4.4.1.4 The Department of Petroleum Resources is effective in establishing a framework for good regulatory governance

An effective regulation helps to achieve the social welfare objectives set out by the government through regulatory authority (Djankov, 2003). Hence respondent opinions were tested in relation to the above statement. The descriptive statistics in Table 6.25 show that out of the 102 recorded responses, 53.2% of the respondents strongly agreed, 23.5% took a neutral position and 23.5% strongly disagreed with the statement. Overall, the respondent groups agreed, with a mean of 3.37 and median of 4.00 respectively. Mann-Whitney tests were run to determine whether differences exist between the respondent groups.

Table 6.26 shows the differences between the respondent groups. From the cross-tabulation tests it is clear that 80% and 50% of the MOMC and IOMC respondents overwhelmingly agreed that the DPR is effective in establishing a framework for

good regulatory governance. In contrast, 60% and 50% of the NEITI and TU respondents disagreed. This negative position could be true because it is consistent the assertion made by Nwokeji (2007) that the DPR lacks the autonomy to effectively set and establish a framework for good regulatory governance. Based on this evidence, it can be said that the process used by the DPR to establish a framework for good regulatory governance by DPR is ineffective.

6.4.4.1.5 The appointment of the executive management of the Department of Petroleum Resources is primary based on merit

According to Levy, and Spiller (1996), to ensure good regulatory governance the executive head of regulatory agencies must be a trusted expert who will use professional judgment to decide what should be done. Respondent perceptions of this issue were analysed. The descriptive statistics in Table 6.25 disclose that out of the 102 respondents, 41 strongly agreed with the statement, 35 strongly disagreed and 26 held a neutral position. Overall, the groups tended towards agreement, as shown by the mean and the median scores of 3.16 and 3.00 respectively.

From Table 6.26, it can be seen that the opinion voiced by the PEF respondents differs from that of the PPPRA, NETIT, CS and TU. Similarly, the views of the MOMC respondents varies from those of the PPPRA, CS and TU. The cross-tabulation tests show that 54.5% and 70% of the PEF and MOMC respondents were in agreement, while 72.7% of the PPPRA respondents were neutral. In contrast, 60%, 71.4% and 50% of NEITI, CS and TU respondents disagreed with the statement that the appointment of the DPR's executive management is based primarily on merit. This disagreement is consistent with the assertion that the appointments to head any agency in Nigeria are not based on merit (Vanguard, 2005). Therefore, the appointment of the DPR's executive management cannot be said to be based primarily on merit.

6.4.4.1.6 The personnel of the Department of Petroleum Resources discharge their regulatory duties in a professional manner

The integrity of the regulatory agency staff is very important because compromising their interests through bribery or threats would mean that the overall effectiveness

and credibility of the regulatory institution would suffer (Levine et al., 2005). The descriptive statistics tests are presented in Table 6.25. Out of the 102 responses recorded, 55 of the respondents strongly agreed with the statement, 17 were neutral and 30 strongly disagreed. The Mann-Whitney tests revealed no differences in the way the respondents answered the question.

Although it has been alleged that DPR staff were involved in bribery scandals in the downstream sector (Subsidy Probe Report, 2012), the majority of the respondents were in agreement with the statement, as indicated by the overall mean of 3.35 and median of 4.00. Thus, and given that 56% of the total respondents agreed, it can be concluded that the DPR's personnel discharge their regulatory duties in a professional manner.

6.4.4.2 Perceptions relating to the regulatory governance expertise of the Petroleum Product Pricing Regulatory Agency

A lack of expertise and necessary skills prevent many regulatory agencies from achieving good regulatory objectives (Parker and Kirkpatrick, 2007). In line with the Public Interest Theory of regulation, six statements developed to help to ascertain whether the PPPRA has the required expertise to regulate the pricing of petroleum products in the downstream petroleum sector. The descriptive frequencies and the percentages of the respondents' views are presented in Table 6.27. For each of the six statements 102 responses were recorded.

Table 6.27: Descriptive frequencies and the percentages the Petroleum Product Pricing Regulatory Agency regulatory expertise

Statements	M	MD	SD	D	N	A	SA	TR
a) The Petroleum Products Pricing Regulatory Agency has the capacity to regulate the pricing of petroleum products.	3.33	4.00	11 (10.8)	21 (20.6)	14 (13.7)	35 (34.3)	21 (20.6)	102 (100)
b) The Petroleum Products Pricing Regulatory Agency deploys skilled personnel to conduct its regulatory functions relating to the pricing of petroleum products.	3.54	4.00	3 (2.9)	14 (13.7)	23 (22.5)	49 (48.0)	13 (12.7)	102 (100)
c) Staff from the Petroleum Products Pricing Regulatory Agency receive the necessary training to ensure the implementation of high quality regulations relating to the pricing of petroleum products.	3.39	4.00	3 (2.9)	18 (17.6)	26 (25.5)	46 (45.1)	9 (8.8)	102 (100)
d) The Petroleum Products Pricing Regulatory Agency is effective in establishing a framework for good regulatory governance.	3.16	3.00	7 (6.9)	22 (21.6)	29 (28.4)	36 (35.3)	8 (7.8)	102 (100)
e) The appointment of executive management of the Petroleum Products Pricing Regulatory Agency is primarily based on merit.	3.14	3.00	11 (10.8)	23 (22.5)	24 (23.5)	29 (28.4)	15 (14.7)	102 (100)
f) The personnel of the Petroleum Products Pricing Regulatory Agency discharge their regulatory duties in a professional manner.	3.35	3.00	4 (3.9)	24 (23.5)	24 (23.5)	32 (31.4)	18 (17.6)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.4.2.1 The Petroleum Products Pricing Regulatory Agency has the capacity to regulate the pricing of petroleum products

Table 6.27 above shows the descriptive frequencies of the respondents in relation to the above assertion. Out of the 102 responses recorded, 56 respondents strongly agreed, 32 strongly disagreed and 14 were neutral. No differences were detected when Mann-Whitney tests were run.

Table 6.28: Mann-Whitney test relating to the Petroleum Product Pricing Regulatory expertise

a) The Petroleum Products Pricing Regulatory Agency has the capacity to regulate the pricing of petroleum products.

NIL

b) The Petroleum Products Pricing Regulatory Agency deploys skilled personnel to conduct its regulatory functions relating to the pricing of petroleum products.

NIL

c) Staff from the Petroleum Products Pricing Regulatory Agency receive the necessary training to ensure the implementation of high quality regulations relating to the pricing of petroleum products.

Groups	**N_1**	**P_3**	**C_1**
D_1	.002	.003	.009
P_1	.004	.005	.014
P_2	.001	.001	.005
M_1	.007	.013	.024

d) The Petroleum Products Pricing Regulatory Agency is effective in establishing a framework for good regulatory governance.

Groups	**D_1**	**P_1**	**P_2**	**N_2**	**I_1**	**T_1**
N_1	.001	.004	.011	.018	.017	.006
P_3	.026	.037	.018	.026		

e) The appointment of the Petroleum Products Pricing Regulatory Agency's executive management is based primarily on merit.

Groups	**D_1**	**P_1**	**C_1**	**M_1**	**P_2**
N_1	.005	.023	.002	.046	.000
N_2	.027		.021		.000
P_3	.019		.029		.000

f) The personnel of the Petroleum Products Pricing Regulatory Agency discharge their regulatory duties in a professional manner.

NIL

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

(b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

As shown in Table 6.28, no differences were found to exist between the respondent groups. Nevertheless, there has been an insinuation that over the years the PPPRA has failed to ensure the availability of petroleum products in the country and price stability (Iwayemi, 2008). However, the overall mean score of 3.33 and the median of 4.00 indicate that the respondent groups agree that the PPPRA has the capacity to regulate the pricing of petroleum products. It is also evident from Table 6.24 that 54.9% of the total respondents are in agreement; only 31.4% disagreed and 13.7% were indecisive. Therefore this would indicate that the PPPRA has the capacity to regulate the pricing of petroleum products.

6.4.4.2.2 The Petroleum Products Pricing Regulatory Agency deploys skilled personnel to conduct its regulatory functions relating to the pricing of petroleum products

Baldwin et al. (2012) posited that skilled personnel contribute towards achieving good regulatory objectives. Hence the above statement is relevant to this study. As seen in Table 6.27, on average the mean and median scores of 3.54 and 4.00 suggest that the respondent groups are in agreement with the statement. In addition, out of the 102 responses recorded, 62 were strongly in agreement, 23 were neutral and only 17 strongly disagreed. When the Mann-Whitney test was conducted no significant differences were discovered among the groups.

However, in spite of the findings described in the NA's subsidy report that the PPPRA lacks qualified personnel to carry out regulatory duties, the majority of respondents agreed with the statement. As revealed by the descriptive statistic test, 60.7% of the respondents maintained an agreed position and only 16.6% disagreed with the statement. Based on this, it can be argued that the PPPRA does deploy skilled personnel to conduct its regulatory functions relating to the pricing of petroleum products.

6.4.4.2.3 Staff from the Petroleum Products Pricing Regulatory Agency receives the necessary training to ensure the implementation of high quality regulations relating to the pricing of petroleum products

In this section, respondent views were analysed on whether staff from the PPPRA receive the necessary training to fulfill their duties. The descriptive statistics presented in Table 6.27 show that of the 102 responses recorded, 55 respondents strongly agreed with the statement, 21 strongly disagreed and 26 took a neutral position. On average, the mean and median scores are 3.29 and 4.00, which indicate the respondents' agreement to the statement.

The Mann-Whitney tests run highlighted differences among the respondent groups, as presented in Table 6.28. The cross-tabulation test revealed that 50% and 57.1% of NEITI and CS respondents respectively disagreed. In contrast, respondents from the DPR, PPPRA, PEF, MOMC and IOMC overwhelmingly agreed with 81.9%, 81.9%,

90.9%, 80% and 50% respectively. Their position might be valid given that three of the groups (the DPR, PPPRA and PEF) are regulatory agencies, responsible for the training of their personnel, while one group (the MOMC), as a regulated entity, could have first-hand knowledge on whether or not the PPPRA staff receive necessary training. Hence it can be said that the PPPRA staff receive the necessary training.

6.4.4.2.4 The Petroleum Products Pricing Regulatory Agency is effective in putting in place a framework for good regulatory governance

The effectiveness of any regulatory agency in implementing a framework of regulatory governance determines the quality of the regulatory governance regime (Shleifer, 2005). This informed the decision to include the above statement. The findings from the descriptive statistics show that of the 102 responses recorded, 44 respondents strongly agreed with the statement, 29 strongly disagreed and another 29 took a neutral position (Table 6.27). In general, the respondents were neutral, as indicated by the mean and median scores of 3.16 and 3.00 respectively.

In addition, Mann-Whitney test results disclosed that perceptions of the NEITI respondents differ from those of six groups: the DPR, PPPRA, PEF, NA, IOMC and TU (see Table 6.28). Likewise, the PPMC's perception varied from that of the DPR, PPPRA and NA. Also the cross-tabulation tests show that 76.9%, 72.7%, 54.5% and 50% of the respondents from the DPR, PPPRA, PEF and IOMC respectively agreed. In contrast, 60% and 46.2% of the respondents from TU and PPMC were neutral, whilst 80% and 44.4% of respondents from the NEITI and NA disagreed that the PPPRA is effective in implementing a framework for good regulatory governance.

The NA has the power to independently assess the effectiveness of the PPPRA in establishing a framework of good regulatory governance. Hence, the disagreements voiced are perceived to be more appropriate and are consistent with the assertion made by Ehinomen and Adeleke (2012) that the PPPRA is ineffective in establishing a framework for good regulatory governance.

6.4.4.2.5 The appointment of the executive management of the Petroleum Products Pricing Regulatory Agency is primarily based on merit

The views of the respondents were sought in relation to whether the appointment of the executive management of the PPPRA was primarily based on merit. Table 6.27 shows that out of the 102 responses, 44 strongly agreed with the statement, 34 strongly disagreed and 24 held a neutral position. Overall, the groups tended towards a neutral perception, as revealed by the mean and median scores of 3.14 and 3.00 respectively. The Mann-Whitney table indicates the differences between the respondent groups and the cross-tabulation test shows that 69.3%, 90.9%, 50% and 71.4% of respondents from the DPR, PEF, MOMC and CS respectively are in agreement that the appointment of the executive management of the PPPRA is based primarily on merit. The respondents from the PPPRA were neutral with 45.5%.

In contrast, 53.9%, 80% and 55.5% of the PPMC, NEITI and NA respondents disagreed with the statement. Given that the respondents from the PPPRA are indecisive, the perception of the NA could be more appropriate because it has the constitutional power to screen appointments to the PPPRA executive management. Therefore it can be argued that appointments are not based on merit. Indeed, this is similar to the assertion that most appointments to head an agency are politically motivated (Nuhu-Koko, 2008).

6.4.4.2.6 The personnel of the Petroleum Products Pricing Regulatory Agency discharge their regulatory duties in a professional manner

Table 6.27 presents the findings from the descriptive statistics in relation to whether the personnel of the PPPRA discharge their regulatory duties in a professional manner. The results show that, overall, the respondent groups agreed, as indicated by the mean and median of 3.35 and 3.00 respectively. Nevertheless, out of the 102 responses recorded, 50 respondents strongly agreed, 28 strongly disagreed and 24 were neutral. The Mann-Whitney tests did not detect any differences in how the groups perceived the statement.

Despite the assertion that staff from the PPPRA do not discharge their duties in a professional manner (Subsidy Report, 2012), 49% of the respondents agreed, only

27.4% disagreed while 23.5% were indecisive. This implies that the staff from the PPPRA do not conduct their regulatory responsibilities in a professional manner.

6.4.4.3 Perceptions relating to the regulatory governance expertise of the Petroleum Equalisation Fund

The research sub-hypothesis HO_4 was developed and then used to test the PEF's expertise in regulatory governance. As guided by the regulatory governance framework and Public Interest Theory of regulation, respondents were asked their opinions on six statements in relation to the regulatory expertise of the PEF. Table 6.29 shows the descriptive frequencies of the respondent views. There were 102 responses recorded for each of the six statements.

Table 6.29: Descriptive frequencies and percentages of the Petroleum Equalisation Fund's regulatory governance expertise

.

Statements	M	MD	SD	D	N	A	SA	TR
a) The Petroleum Equalisation Fund has the capacity to regulate bridging activities in accordance with its mandate.	3.25	3.50	8 (7.8)	24 (23.5)	19 (18.6)	36 (35.3)	15 (14.7)	102 (100)
b) The Petroleum Equalisation Fund deploys the necessary personnel to conduct its regulatory functions relating to the downstream petroleum sector.	3.33	3.00	5 (4.9)	17 (16.7)	30 (29.4)	39 (38.2)	11 (10.8)	102 (100)
c) Staff from the Petroleum Equalisation Fund receive the necessary training to ensure the implementation of high quality regulations relating to its mandate.	3.30	3.50	3 (2.9)	25 (24.5)	23 (22.5)	40 (39.2)	11 (10.8)	102 (100)
d) The Petroleum Equalisation Fund is effective in putting in place a framework for good regulatory governance in accordance with its mandate.	3.23	3.00	5 (4.9)	30 (29.4)	17 (16.7)	37 (36.3)	13 (12.7)	102 (100)
e) The appointment of executive management of the Petroleum Equalisation Fund is primarily based on merit.	2.99	3.00	13 (12.7)	28 (27.5)	20 (19.6)	29 (28.4)	12 (11.8)	102 (100)
f) The personnel of the Petroleum Equalisation Fund discharge their regulatory duties in a professional manner.	3.35	3.00	4 (3.9)	24 (23.5)	26 (25.5)	28 (27.5)	20 (19.6)	102 (100)

Note: (a) M=Mean, Md=Median, SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, TR=Total Responses (b) Figures in brackets are percentages

6.4.4.3.1 The Petroleum Equalisation Fund has the capacity to regulate bridging activities in accordance with its mandate

This section analyses respondent views on whether the PEF has the capacity to regulate bridging activities in accordance with its mandate. The descriptive statistics show that out of the 102 responses recorded, 51 respondents were strongly in agreement, 19 held a neutral view and 32 strongly disagreed. The mean and median scores of 3.25 and 3.50 indicate that the respondents are in agreement. Mann-Whitney tests were run to ascertain if significant differences existed among the respondent groups.

Table 6.30: Mann-Whitney test relating to the Petroleum Equalisation Fund regulatory governance expertise

a) The Petroleum Equalisation Fund has the capacity to regulate bridging activities in accordance with its mandate.							
Groups	**D_1**	**P_1**	**N_1**	**N_2**	**T_1**	**C_1**	**P_3**
P_2	.033	.020	.011	.004	.001	.006	.040
I_1		.048	.032	.018	.009	.030	
M_1			.032	.008			
b) The Petroleum Equalisation Fund deploys the necessary personnel to conduct its regulatory functions relating to the downstream petroleum sector.							
Groups	**D_1**	**I_1**	**P_3**	**N_1**	**N_2**	**C_1**	**T_1**	**P_1**
P_2	.007	.005	.001	.000	.002	002	.001	.001
M_1				.021				.048
c) Staff from the Petroleum Equalisation Fund receive the necessary training to ensure the implementation of high quality regulations relating to its mandate.							
Groups	**P_3**	**I_1**	**C_1**	**T_1**			
P_2	.009	.027	.003	.010			
M_1			.014				
d) The Petroleum Equalisation Fund is effective in putting in place a framework for good regulatory governance in accordance with its mandate.							
Groups	**C_1**	**T_1**					
M_1	.003	.001					
I_1	.006	.012					
e) The appointment of executive management of the Petroleum Equalisation Fund is based primarily on merit.							
Groups	**P_3**	**N_1**	**I_1**	**C_1**	**T_1**		
P_2	.001	.023	.002	.003	.003		
f) The personnel of the Petroleum Equalisation Fund discharge their regulatory duties in a professional manner.							
Groups	**P_2**	**P_3**	**N_1**	**C_1**	**T_1**		
P_1	.004				.008		
D_1	.009	.017	.022	.045	.005		
M_1	.020	.022	.036	.049	.005		

Note: (a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's

Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU) (b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table.

Table 6.30 illustrates the differences between the respondent groups. Of the NEITI respondents, 40% were neutral and the remaining 60% were equally divided between agreement and disagreement (30% each). In contrast, 55.5%, 71.4% and 70% of the NA, CS and TU respondents disagreed that the PEF has the capacity to regulate bridging activities in accordance with its mandate. In addition, the disagreed perception is in line with the assertion that most consumers, in other parts of the country, are forced to buy petroleum products above the official price .[23]

On the other hand, 69.2%, 54.5%, 72.9%, 53.9%, 70% and 75% of respondents from the DPR, PPPRA, PEF, PPMC, MOMC and IOMC respectively are in agreement. This agreement could be appropriate because the DPR, PPPRA and PEF, as regulators, are in the best position to determine the regulatory capacity of the PEF than any other group. Similarly, the PPMC, MOMC and IOMC, as marketing and regulated companies with a direct working relationship with the PEF, might be in a better position to ascertain its capacity. This signifies that the PEF has the capacity to carry out its regulatory duties.

6.4.4.3.2 The Petroleum Equalisation Fund deploys the necessary personnel to conduct its regulatory functions relating to the downstream petroleum sector

The perceptions of respondents were sought and tested in relation to the above assumption. As presented in Table 6.29, the descriptive statistics test show that the overall mean and median (3.33 and 3.00) tend to indicate agreement. However, of the 102 responses recorded, the majority of 50 respondents agreed with the statement, 30 took a neutral position, while 22 disagreed.

According to the Mann-Whitney test results presented in Table 6.30, it is clear that a number of differences exist between the respondent groups. The cross-tabulation reveals that 45.5%, 50%, 42.9% and 50% of the respondents from the PPPRA,

[23] Most consumers have never obtained fuel at the price specified by the government. At the best of times only consumers around Lagos have managed to obtain fuel at the official price (Arowolo, 2012).

NEITI, CS and TU respectively held a neutral position. By contrast, 69.2%, 90.9%, 80% 50% and 44.4% of the DPR, PEF, MOMC, IOMC and NA respondents respectively were in agreement. The agreement could be correct, given that the DPR and PEF are regulating bodies and the MOMC and IOMC are regulated firms; hence, they are more likely to be better informed than the other groups. This is consistent with the belief that the problem with the downstream sector has nothing to do with the deployment of personnel (Nuhu-Koko, 2008). Therefore this denotes that the PEF does deploy the necessary personnel.

6.4.4.3.3 Staff from the Petroleum Equalisation Fund receive the necessary training to enable them to set high quality regulations relating to its mandate

Training of regulatory agencies personnel increases the possibility of a good regulatory governance regime (Zhang, 2010). This justified the importance of asking for the respondents' perceptions on the statement above. Table 6.29 provides the descriptive statistics of the respondents. Overall, the groups' mean and median scores of 3.30 and 3.50 suggest agreement. Out of the 102 responses recorded, 51 were strongly in agreement with the statement, 28 strongly disagreed and 23 were neutral. Table 6.30 presents the differences between the respondent groups.

As a result of the cross-tabulation tests, it is evident that 57.2% and 83.5% of the respondents of CS and PPMC are in disagreement. In contrast, 91%, 70%, 62.5% and 50% of PEF, MOMC, IOMC and TU respondents agreed that staff from the PEF receive the necessary training to enable them to set high quality regulations relating to its mandate. The agreed perception could be correct, given that the PEF is a regulating agency responsible for the training of its personnel and is in the best position to be well informed. Similarly, the MOMC and IOMC, which interact with PEF personnel in the course of their business, should be better placed than other groups to determine whether or not the PEF staff are highly trained. Hence it can be argued that the PEF staff do receive the necessary training.

6.4.4.3.4 The Petroleum Equalisation Fund is effective in establishing a framework for good regulatory governance in accordance with its mandate

The reason for asking the above statement is because good regulatory governance framework is considered to be the foundation for attaining regulatory objectives (Zhang et el., 2005). From Table 6.29 it can be seen that the descriptive statistics show that out of the 102 recorded responses, 50 respondents strongly agreed, 17 were neutral and 35 strongly disagreed. The mean score of 3.23 indicates that overall the respondents are inclined to agree, while the median score of 3.00 suggests that the respondents' perception is neutral. To ascertain the actual differences between the respondent groups, Mann-Whitney tests were carried out and the results can be seen in Table 6.30.

The cross-tabulation test reveals that 57.20% and 60% from the respondents of the CS and TU respectively disagreed that the PEF is effective in establishing a framework for good regulatory governance in accordance with its mandate. The disagreement is in line with the assertion that the PEF is ineffective in setting a price equalisation framework (Arowolo, 2012)[24]. On the other hand, 50% of respondents from both the MOMC and IOMC agreed with the statement. The MOMC and IOMC, as regulated companies, are in a better position than any other group to understand whether or not the PEF's regulatory frameworks are effective; hence, it can be said that the PEF is effective in establishing a framework for good regulatory governance in accordance with its mandate.

6.4.4.3.5 The appointment of executive management of the Petroleum Equalisation Fund is based primarily on merit

Experience and integrity of the executive management are prerequisites for the success of a regulatory governance regime (Zhang and Thomas, 2009). Therefore it is essential to seek and analyse respondent perceptions regarding the above

[24] All these agencies were set up to make fuel available and affordable to the citizens of this oil-rich nation, but have ended up fueling poverty and compounding the crisis of doing business in the country. The poor have always been told that a litre of kerosene should sell at a subsidized price of N50. But the product is never available for anything less than double the official price. Of what use to the ordinary Nigerian is the official pricing system? Of what use are these fuel agencies to the ordinary consumer? (Arowolo, 2012).

statement. Table 6.29 presents the descriptive statistics of the respondents. Out of the 102 recorded responses, 41 strongly agreed with the statement, 20 were neutral and 41 strongly disagreed. The mean and median of 2.99 and 3.00 indicate that the respondent groups tend towards neutral.

According to the Mann-Whitney tests, differences were discovered among the respondent groups as shown in Table 6.30. The cross-tabulation revealed that 91% of the PEF respondents agreed. One possible reason for this result could be that PEF has to agree that the appointment of executive management is based primarily on merit.

In contrast, 69.3%, 60%, 50%, 57.2% and 50% of respondents of the PPMC, NEITI, IOMC, CS and TU respectively disagreed that the appointment of the PEF's executive management is primarily based on merit. These groups could be correct, considering the assertion that all appointments to head regulatory agencies in Nigeria are politically motivated (Vanguard, 2005). Hence it is appropriate to argue that the appointment of the PEF's executive management is not based on merit.

6.4.4.3.6 The personnel of the Petroleum Equalisation Fund discharge their regulatory duties in a professional manner

Professionalism is vital in regulatory governance so as to ensure consistency and reliability (World Bank, 2003). Therefore respondent views were sought in relation to the statement above. From Table 6.29 it can be seen that the overall mean and median scores of 3.35 and 3.00 indicate that the respondent groups were in agreement. Out of the 102 recorded responses, 48 strongly agreed with the statement, 26 were neutral and 28 strongly disagreed. Mann-Whitney tests were run to ascertain if differences existed among the respondent groups. The resulting differences discovered are set out in Table 6.30.

The cross-tabulation shows that 76.9%, 90.9%, and 60% of the DPR, PEF and MOMC respondents, respectively, agreed that the PEF's personnel discharge their regulatory duties in a professional manner. Both regulatory bodies (the DPR and the PEF) and regulated companies (the MOMC) were indicted for conspiring to defraud the sector (Soreide, 2011). Hence one possible reason why they agreed to the statement may have been to rebuff the allegation.

On the other hand, the PPPRA and IOMC respondents were indecisive; the rationale for this result may be that they had been accused of colluding with regulated companies to perpetrate frauds in the sector (Petroleum Task Force Report, 2012). Similarly, respondents from the TU were indecisive, which could be due to the fact that they make up some of the PEF staff, and therefore they may have decided not to disclose negative practices. In contrast, 46.2%, 50% and 57.1% of the PPPMC, NEITI and CS respectively disagreed. The disagreement is synonymous with the allegation that staff from downstream regulatory agencies are corrupt and collude with other government officials and oil-marketers in fraudulent activities in the sector.[25] Consequently, it is obvious that PEF personnel do not discharge their duties professionally.

In summary, the overall findings show that the DPR have the required expertise in regulatory governance. Moreover, the indicators indicate that DPR personnel receive the necessary training, discharge their duties in a professional manner, deploy skilled personnel and may have the capacity to regulate the sector. Hence the research sub-hypothesis HO_4 is rejected in this regard. The research sub-hypothesis HO_4 is rejected in relation PPPRA's regulatory expertise. This is because the findings showed that four out of six practices analysed in this chapter are carried out by the PPPRA. Hence, the PPPRA has some level of regulatory expertise. The findings in relation to the PEF's regulatory expertise indicate that the respondents agreed with four out of six statements. Hence, the research sub-hypothesis HO_4 which states that: *HO_4- Lack of required expertise affects the regulatory governance practice of the Nigeria's downstream regulatory agencies*, is rejected.

From Table 6.31 it can be seen that the PEF recorded a total of 40 significant differences, while NEITI and MOMC differed significantly with other respondents groups 30 and 28 times respectively. The results in relation to regulatory expertise disclosed that the regulators in Nigeria's downstream sector have the required knowledge to regulate the sector. But other results indicate that the appointment to head the agencies are politically motivated, which is a threat to the good regulatory governance practice. Similarly, the investigation revealed that the personnel from the

[25] An investigation found out that the oil subsidy fraud was perpetrated by regulatory agencies, marketing companies and public officers in the industry (National Assembly Subsidy Report, 2012).

regulatory agencies frequently attend required regulatory training. Moreover, the overall findings in this regard showed that the regulatory agencies have the capacity to regulate the activities in the downstream petroleum sector, but at the same time stressed the need for enhancement of the system with new technology for easier monitoring.

Table 6.31: Summary of the number of differences between groups in relation to the Nigeria's downstream regulatory expertise (this summarises table 6.26, 6.28 and 6.30)

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1	Total
D_1	**n/a**	1	4	4	5	1	0	0	3	2	**20**
P_1	1	**n/a**	4	4	3	0	4	3	1	1	**21**
P_2	4	4	**n/a**	7	6	3	1	3	6	6	**40**
P_3	4	4	7	**n/a**	1	2	2	0	1	2	**23**
N_1	5	3	6	1	**n/a**	1	8	4	1	1	**30**
N_2	1	0	3	2	1	**n/a**	2	2	1	0	**12**
M_1	0	4	1	2	8	2	**n/a**	0	5	6	**28**
I_1	0	3	3	0	4	2	0	**n/a**	2	4	**18**
C_1	3	1	6	1	1	1	5	2	**n/a**	0	**20**
T_1	1	1	6	2	1	0	6	4	0	**n/a**	**21**

Note: D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)
N/A: Not Applicable

6.6 Interim conclusion

In this chapter the findings of the questionnaire survey administered to the stakeholders of Nigeria's downstream petroleum sector were presented and analysed accordingly. The main purpose of the chapter was to assess the status of current regulatory governance practices in Nigeria's downstream petroleum sector with the aim of providing recommendations for enhancement. The results reveal that regulatory agencies do have the required expertise to regulate the sector. In addition, they do have the ability to recruit, deploy, promote and discipline their personnel independently. On the other hand, the results reveal that in practice, Nigeria's downstream regulatory agencies lack the financial independence and autonomy to make certain regulatory decisions and do not have the power to admonish companies.

The results also highlight the fact that Nigeria's downstream regulatory agencies have obvious deficiencies in the way they handle their accountability practices. In the case of transparency practice, the findings reveal that the activities of Nigeria's downstream regulatory agencies are, in fact, far removed from the international best practice of good regulatory governance.

Table 6.32: Overall number of significant differences recorded between groups

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1	Total
D_1	**n/a**	11	17	18	32	11	5	6	20	17	**137**
P_1	11	**n/a**	19	16	20	15	8	7	20	8	**124**
P_2	17	19	**n/a**	17	25	16	10	13	30	26	**173**
P_3	18	16	17	**n/a**	7	8	11	0	3	3	**83**
N_1	32	20	25	7	**n/a**	4	20	10	4	5	**127**
N_2	11	15	16	8	4	**n/a**	5	10	8	6	**83**
M_1	5	8	10	11	20	5	**n/a**	1	13	11	**84**
I_1	6	7	13	0	10	10	1	**n/a**	6	6	**59**
C_1	20	20	30	3	4	8	13	6	**n/a**	1	**104**
T_1	17	8	26	3	5	6	11	6	1	**n/a**	**83**

Note: D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2=Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigeria's Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)
N/A: Not Applicable

Table 6.32 shows the total number of times each respondent group differed significantly with other groups. Identifying the significant differences in perception among the respondents groups in relation to the elements of good regulatory governance practice is another major contribution of this research. Indeed, detecting the significant differences may help in revealing the dysfunctional characteristics of the relationship between respondent groups, which may give the policy makers an opportunity to improve the regulatory governance of Nigeria's downstream petroleum sector. However, the overall findings indicate that the main prerequisites of good regulatory governance are not being met by Nigeria's downstream regulatory agencies, particularly in relation to their independence, accountability and transparency practices. Therefore, the main research hypothesis which states that: *HO_1 – -The regulatory governance practice in Nigeria's downstream petroleum sector is not fit for purpose*, is accepted. Hence it is evident that total reorganisation

and re-regulation are required in the sector to enable the enhancement of good regulatory governance practice.

CHAPTER SEVEN

Analysis of interview findings

7.1 Introduction

The previous chapter presented and analysed the questionnaire findings. The aim of this chapter is to discuss the findings arising from the interview survey, which was conducted with twenty participants, two from each of the ten stakeholders groups chosen for their high level of expertise and experience in Nigeria's downstream petroleum sector. The remainder of the chapter is divided into the following sections: Section 7.2 discusses interview procedures; Section 7.3 analyses the findings arising from the follow-up interview while Section 7.4 concludes the chapter.

7.2 The interview procedures

In order to achieve the aim of analysing the findings obtained from the follow-up interview, certain procedures were adopted. Stephens (2009) and Grbich (2007) posited that the procedure for obtaining, interpreting and organising data depends on the research questions, or the purpose for which the research is undertaken. These procedures include data presentation, data reduction and drawing conclusions (Miles and Huberman, 1994).

Stephens (2009) opined that it is important for researchers to consider introducing themselves and making enquiries before actually meeting the research participants. Strobl et al., (2000) warned that at the beginning of this process, respondents may experience a degree of uneasiness as such encounters may be alien to them. Thus this study addressed this issue and, in order to create a relaxed atmosphere for the participants, significant efforts were made by the researcher to present him/herself in such a way that respondents would feel comfortable. The respondents were assured that their identity would not be disclosed at any time. In addition, in order to deal with this issue of respondent confidentiality, a code was allocated to each of the twenty interviewees,[26] thereby eliminating the need to print their names or identify their place of work.

[26] *R01A, R01B, R02A, R02B, R03A, R03B, R04A, R04B, R05A, R05B, R06A, R06B, R07A, R07B, R08A, R08B, R09A, R09B, R10A and R10B.*

The respondents were also reassured that the data collected from the interview would only be used by the research team. This precaution had a positive impact on the interview process and the participants were comfortable and relaxed when being questioned. Those respondents who were reluctant to participate in a telephone interview were sent a questionnaire by email, which resulted in achieving a high response rate. Other interviewees, who agreed to the telephone interview, had their responses recorded using a digital Dictaphone. All efforts were made to transcribe and analyse the interview findings as swiftly as possible, to ensure that the expressions used and the originality of the interviews were captured appropriately. Nonetheless, due to the limitations of resources and time, this was sometimes unachievable.

Stephens (2009) pointed out that data presentation involves understanding and noting down the information collected from the interviewees and then interpreting it. Generally, data gathered from an interview is not transcribed exactly; moreover, only the most appropriate points cited by participants are usually analysed. Having presented and transcribed the data, the researcher then sent recorded responses to the individual respondents, in the form of written files, in order to validate the answers, as it has been argued that this approach of validating information in mixed-method research enhances the research outcome (Saunders et al., 2009). Furthermore, it allows participants to double-check their earlier assertions and to make amendments if necessary (Parahoo, 2006). Fortunately, all the twenty respondents agreed to review their earlier statements and provide input. Indeed, this feedback proved to be most beneficial and all additional observations were incorporated into the findings.

After collecting the corrected data, data reduction was conducted. The process of data reduction includes simplifying, focusing, deleting, and transforming the data from the original record and re-writing the final files (Miles and Huberman, 1994). Further, Stephens (2009) argued that the procedure helps to simplify the work and makes it easily understandable, as the ideas are divided into themes and the patterns created are centred on the significance of the statements under investigation. McCabe (2008) and Grbich (2007) added that these procedures might enable the researcher to produce an easy and indeed simple picture of the issues evolving from the

investigation. On this note, due to the small number of respondents, this thesis decided to manually analyse the data collected from the interview as its volume did not warrant the use of Nvivo or any other relevant software.

7.3 Analyses of the interview findings

As stated earlier, in Section 5.4.3.2, the study adopted a semi-structured interview method to validate the issues arising from the questionnaire findings. In view of the above, seven areas were identified as requiring further clarification, to which the carefully chosen experts responded in an objective manner. (See interview questions in Appendix 2). The seven issues emerging from the questionnaire findings are as follows.

7.3.1 Concerns relating to the inadequate independence of Nigeria's downstream regulatory agencies

Literature on regulatory governance suggests that absolute autonomy in the regulatory process could enable regulators to establish good regulatory policies. It is widely accepted that regulatory agencies must be able to perform their duties in an objective manner, which necessitates they must be free from political influence or pressure when making regulatory decisions (OECD, 2009; Horn, 1995). But the findings from the questionnaire disclosed that Nigeria's downstream regulatory agencies lack sufficient autonomy to discharge their responsibility. Indeed, respondents queried Nigeria's downstream regulatory agencies' level of independence. Furthermore, the interview participants were also of the opinion that there were serious issues affecting the regulatory independence of Nigeria's downstream regulatory agencies. When interviewees were asked to explain the factors that have affected, or might have affected the freedom of the regulators to act in an independent manner, they put forward different reasons. The majority of the interviewees identified the following issues as having the most impact on the independence of Nigeria's downstream regulatory agencies:

i) Political factors: according to a number of interviewees, political interference has a significant impact on the regulators' level of autonomy. Below are a number of

assertions made by respondents who commented on the subject of political interference.

One of the respondents from the Civil Society said that: *'One major problem affecting the independence of Nigeria's downstream regulatory agencies is politically motivated. Indeed, all managerial appointments to head the regulatory agencies are determined by the powerful politician or elite, as such interventions within the regulatory agencies are unavoidable'* (R01A).

In the same vein R06B commented: *'The Government's and the elite's interference in budget allocation is a major factor. Even the award of a contract is usually determined by either the elite or politicians, regardless of whether the contractors are unqualified or lack the skills to handle the projects.'*

Similarly, R09B and R06A share the same view that political interference has negatively affected the independence of Nigeria's downstream regulatory agencies.

ii) Legislative factors: In addition, a few interviewees stated that inadequate legislation impacted the autonomy of Nigeria's downstream regulators.

One of the interviewees from a regulated company stated: *'At present almost every decision of downstream petroleum sector is determined by either the office of the Minister or the Presidency. Remember the recent attempt of the government to remove fuel subsidies? What justification does the presidency use for the increase in the price of the petroleum products? This is a matter for regulatory experts'* (R04A).

Another participant added: *'There is a lacuna in the legislation of downstream petroleum sector. For instance, it is very wrong to say that an agency like the Department of Petroleum Resources (DPR) is under the watch of the Ministry of petroleum Resources. This contributes to nothing but unnecessary bureaucracy'* (R09A).

Moreover, R07A pointed out that: *'The regulators of downstream sector are hamstrung by the lack of government will to reform, or even regulate the sector based on current legislation. This is because the government official benefits from subsidies which contribute to market inefficiencies and unfair advantages.*

Consequently, these have obviously hindered the autonomy of Nigeria's downstream regulatory agencies.'

A participant from regulatory agencies argues that: *'At the moment it will be very difficult for Nigeria's downstream regulatory agencies to have the required independence as obtained in other countries, simply because the refineries are not working at optimal capacity. The government depends on the importation of petroleum products by regulated companies and these companies are profit orientated. Their dominance influences most of the regulatory decisions in the sector. For example, the recent subsidy probe is enough evidence for the regulatory agencies to rebuke the licences of many companies. Unfortunately, doing so will contribute to the shortages of petroleum products all over the country because the local refineries are not producing at full capacity'* (R02A).

In the same vein, R10A, R01B and R05B were of the similar opinion that poor legislation and the undue power granted to Ministers has affected the autonomy of Nigeria's downstream regulators.

iii) Capture by the regulated industries: Other interviewees stated that Nigeria's downstream regulatory agencies were not independent because of capture by regulated entities.

A participant from a regulatory agency stated that: *'I doubt if the regulatory agencies have the capacity to manage and supervise regulated companies. The companies have more expertise then the regulators and the regulators depend on these companies for certain information. Therefore, the companies take advantage of that'* (R02B).

Likewise R08A said: *'If you look carefully, the majority of the policies of downstream petroleum favours the regulated companies. This is because the companies have financial capacity and connections with government officials, as such they can influence most of the regulatory decisions in the sector.'*

Respondents R10B and R05A also agreed that capture by regulated firms contributed to the lack of independence of Nigeria's downstream regulatory agencies.

iv) Inadequate financial allocation: Another factor mentioned by the interviewees was poor financial allocation.

One of the participants stated that: *'For over twenty years now there has not been any financial allocation to either build new refineries, loading depots or to lay down pipelines and the regulators do nothing about it, because it is absolutely a government decision'* (R03B).

In addition, another commented: *'The regulatory agencies have no power to determine expenditure. The regulators have to get approval for all their spending from the executive arm of the government. I think this is a major contributing factor to their lack of independence'* (R07B).

In the same vein, participants R03A, R04B and R08B opined that financial autonomy would guarantee the required level of regulatory independence in Nigeria's downstream sector.

All the interviewees agreed that there was a need for a total overhaul of Nigeria's downstream sector. Some participants argued that even if the proposed Petroleum Industry Bill (PIB) were to be put before the National Assembly and become law, the challenges present in the downstream sector would still persist. They believe that the bill would vest even more power in the MPR which continuously impedes the independence of Nigeria's downstream regulators. Until credible and unbiased legislation is ratified, the downstream sector will remain unchanged.

Table 7.3.1.1: Summary of the interview findings relating to the factors affecting independence of the Nigeria's downstream regulatory agencies

<table>
<tr><td colspan="4">Question:
After analysing the responses from the questionnaire. It appears that experts believe there are certain issues that have affected the independence of the Nigeria's downstream regulators. Do you share this view? If so, can you please comment on the factors that have affected, or might have affected the freedom of the regulators to act in an independent manner?</td></tr>
<tr><td>Codes</td><td>Factors affecting the independence of Nigeria's downstream regulatory agencies</td><td>Codes</td><td>Factors affecting the independence of Nigeria's downstream regulatory agencies</td></tr>
<tr><td>R01A</td><td rowspan="10">i) Political factor:
• Interference in managerial appointments
• Interference in budget allocation
• Interference in contract allocation
ii) Legislation factors:
• Excessive power of the petroleum Minister and the Presidency
• Lack of DPR autonomy
• Lack of government will to make reforms</td><td>R06A</td><td rowspan="10">iii) Influence of the regulated industries:
• Companies have greater expertise than the regulators
• The companies have financial capacity and links with government officials
iv) Inadequate financial allocation
• A lack of funds to build new refineries, depots and lay pipelines
• A lack of power to determine expenditure</td></tr>
<tr><td>R01B</td><td>R06B</td></tr>
<tr><td>R02A</td><td>R07A</td></tr>
<tr><td>R02B</td><td>R07B</td></tr>
<tr><td>R03A</td><td>R08A</td></tr>
<tr><td>R03B</td><td>R08B</td></tr>
<tr><td>R04A</td><td>R09A</td></tr>
<tr><td>R04B</td><td>R09B</td></tr>
<tr><td>R05A,</td><td>R10A</td></tr>
<tr><td>R05B</td><td>R10B</td></tr>
</table>

7.3.2 Concerns relating to the poor accountability practice among Nigeria's downstream regulators

Evidence derived from the literature review emphasises the importance of accountability practice in the regulatory governance regime. One of the most vital mechanisms in a successful regulatory governance regime is the accountability practice of the regulatory agencies involved (Gutiérrez and Berg, 2000). Indeed, Levine and Forrence (1990) opined that regulatory agencies should be accountable with regard to fulfilling their mission to protect the public and to provide an enabling environment for regulated companies. This accountability should not interfere with the autonomy of the regulatory body to be able to make specific decisions in a neutral and objective manner.

Findings arising from the questionnaire survey revealed that the processes used in the accountability practices of Nigeria's downstream regulatory agencies were inappropriate (see Chapter 6). It is apparent that experts believe there are certain issues which have affected the accountability practice of Nigeria's downstream regulators. This perception inspired further investigation, this time using the interview method. The interviewees were asked whether they shared the same view and to also comment on the factors that have affected, or might have affected the accountability practice of Nigeria's downstream regulatory agencies. The respondents unanimously agreed that the accountability practices among Nigeria's downstream regulators were not in accordance with international best practice. Moreover, the interviewees highlighted many additional factors that they believe affects the accountability practice of Nigeria's downstream regulatory agencies.

i) Lack of effective legal institution in the country: Many interviewees attributed the lack of accountability among Nigeria's downstream regulators to the weak legal system.

One respondent from the National Assembly said: *'You know, in Nigeria it is very easy to commit certain crimes and get away with it. The laws that will punish issues relating to the lack of accountability are there, but it is very difficult to apply them in practice, simply because of either favouritism or corruption in the entire judicial system. Therefore, the downstream regulators are not different'* (R08A).

In addition, another participant from a civil society said: *'I agree with your initial findings that Nigeria's downstream regulators are not accountable. Part of the reason has to do with the weak system of fighting fraud in the country. You can see that the regulators that were indicted during the subsidy investigation got off scot-free'* (R03B).

Respondents R01A, R04A, R07B and R06B also shared the same perspective as the above respondents, namely that the poor legal system and the absence of harsh penalties contribute to the issues relating to accountability practice of Nigeria's downstream sector.

ii) Lack of clear goals among the regulators: This is another issue affecting the accountability practice of Nigeria's downstream regulators.

When questioned, one of the interviewees replied: *'Most of the regulatory agencies in the downstream petroleum sector do not have established, or clear goals and expectations. They do not set standards to check their performance, and there are no credible policies or procedures in place that will enable accountability practice'* (R08B).

Similarly, respondent (R03A) said: *'Accountability practices depend on the heads of organisation. The heads of the regulatory agencies should challenge the drive and performance of other employees and measure the results. Unfortunately, the heads of the regulatory agencies in Nigeria's downstream petroleum are not like that, their concern is to manage the agency to their advantage before their tenure expires.'*

Another participant from the regulatory agencies commented: *'It would surprise you to see the way these regulatory agencies operate. They cannot even develop or implement a follow-up system of accountability that may allow them to check the activities of other department or measure the performance, productivity and results achieved by its employees. That is part of the reason why the majority of the regulators are not accountable'* (R06A).

In addition, respondents R01B, R09A and R02B also agreed that the absence of any clear goals for the regulatory agencies hinder their accountability practice.

iii) Poor motivation: Other interviewees thought poor motivation was a major factor impacting the accountability practice of regulators in the downstream sector.

One of the advocates of this assertion stated that: *'Because of the improper recognition and rewards within the regulatory agencies, people fail to disclose misappropriation. Remember, that rewards and recognition don't have to be monetary in value. Verbal praise, both in the private and public setting, might encourage whistleblowing'* (R10A).

Likewise, (R09B) pointed out that: *'When the staff of the regulatory agencies know that they are protected by the law they may disclose certain malpractices. But, as it is*

now, the fear is that when they do that, they may end up being victimised or losing their job.'

Similarly, respondent (R02A) said that: *'Most of these regulatory agencies have poor remuneration systems, that is why they short change the system. This contributes to their poor accountability practice.'*

Moreover, a participant from a regulatory agency said: *'Interference by the government in decision making, such as the issuance of waivers and sometimes relying on the operator's mercy to use part of his data/information, is due to the inability to provide a good working environment, such as working tools and other logistics to enable you perform your job optimally'* (R04B).

Further, an interviewee from a regulated company stated: *'Regulators should be accountable to the nation, the executive and the legislative arms of government. Accountability needs the will to demand it from the nation, it also needs the desire to be held accountable by the regulators (in other words, the sense of duty on their part) in addition, accountability requires a system whereby agencies with oversight functions are voted into law to hold regulators accountable'* (R05B).

In support of this perspective, participants R07A, R10B and R05A also unanimously agreed that the effective and appropriate motivation of regulators would undoubtedly encourage accountability by regulatory agencies. The table below summarises the findings relating to the factors affecting accountability practice.

Table 7.3.2.1: Summary of the interview findings relating to factors affecting the accountability practice of Nigeria's downstream regulatory agencies

<table>
<tr><td colspan="4">Question:
From the questionnaire findings, it would appear that experts believe there are certain issues affecting the accountability of Nigeria's downstream regulators. Do you share this view? If so, can you please comment on the factors that have affected, or might have affected the accountability practice of Nigeria's Downstream regulatory agencies?</td></tr>
<tr><td>Codes</td><td>Factors affecting accountability practice of Nigeria's downstream regulatory agencies</td><td>Codes</td><td>Factors affecting accountability practice of Nigeria's downstream regulatory agencies</td></tr>
<tr><td>R01A
R01B
R02A
R02B
R03A
R03B
R04A
R04B
R05A,
R05B</td><td>i) Poor legal institution
• Very difficult to apply laws in practice
• Favouritism and corruption in the judiciary
• Lack of severe penalties for regulators who abuse accountability principles
ii) Lack of clear goals
• Regulators do not set standards to monitor staff performance
• The head of the regulatory agencies; personal interest negatively affects the agencies' accountability</td><td>R06A
R06B
R07A
R07B
R08A
R08B
R09A
R09B
R10A
R10B</td><td>• Failure to implement a follow-up system of accountability
• Poor accounting system in the country
iii) Poor motivation
• Absence of performance recognition
• Lack of legal protection for whistleblowers
• Poor remuneration system
• Interference by the government in decision making
• Lack of will and desire by the authorities to hold the regulators accountable for their actions.</td></tr>
</table>

7.3.3 Concern relating to inadequate transparency practice in Nigeria's downstream petroleum sector

Literature on the subject of regulatory governance states that one of the regulatory body's responsibilities is to provide information to the public. A regulatory body should have the authority to communicate its regulatory decisions and also the rationale behind such decisions to the public. Indeed, the public may only begin to have confidence in the regulators if the regulatory process and decisions are transparent (Goodhart and Charles, 2001; Fisher, 1985). Arguably, regulatory agencies should establish a consultation system enabling representatives from major stakeholders (for example, industry and the public) to express their views on regulatory decisions. Moreover, the results of such consultation should be published. However, the findings derived from the questionnaire survey in Chapter Six revealed that the practice of transparency in Nigeria's downstream regulatory agencies is inadequate. This necessitated a further investigation into the factors impacting the

transparency practice of downstream regulators. When the interviewees were asked to suggest possible ways in which to overcome the general perception that there is a lack of transparency amongst downstream regulators, their suggestions included the following.

i) Public sensitisation: A number of interviewees proposed using public awareness as a tool for overcoming the perception of a lack of transparency among regulators. One advocate of this method, from a regulatory agency stated: *'Basically you have to be doing something to publicise whatever it is you are doing. However, because these regulatory agencies have a track record of compromising or short-changing the system to their advantage, they are always refraining from publishing certain information. In fact they end up disclosing issues that are irrelevant to the public'* (R09A).

Another respondent, from NEITI, said: *'It is a well-known fact that because of their lack of transparency they were indicted in all the audit investigations. The only way to overcome this is for the regulatory agencies to disclose all information and consult stakeholders in their regulatory decisions'* (R05B).

Similarly, an interviewee from the regulatory agencies commented that: *'They should allocate enough votes to the public affairs unit to enable them to sensitise the public through the use of televisions and radio programs, use telecommunication providers to educate their subscribers, attend trade fairs and use bill boards to enhance transparency practice'* (R03A).

ii) Eradication of Nepotisms: A number of interviewees mentioned that there is rampant discrimination in most of the activities performed by Nigeria's downstream sector.

In addition, another interviewee stated: *'Right from the recruitment of the regulators there is no transparency. As such, you will not expect them to be transparent. Unless the government does away with nepotism in the recruitment process, the transparency practice will remain as it is'* (R07A).

In a similar fashion, respondent (R10B) argued that: *'Openness in downstream sector is very critical. The award of licences to companies is usually not disclosed to the public. I think the legislature should pass a law that will enable the general public to have access to certain information from downstream regulators.'*

R04B claimed that: *'Unless transparency mechanisms are in place Nigeria's downstream regulatory agencies will continue to be non- transparent in discharging their regulatory duties.'*

iii) Effective monitoring: A number of participants suggested that effective monitoring by the legislative arm of government would reduce the general perception that there was no evidence of transparency by the downstream regulatory bodies.

A participant from the civil society believes: *'The only way to overcome the perception of lack of transparency among the downstream regulators is for the National Assembly to closely monitor the activities of the regulatory agencies on a regular basis'* (RA9B).

The majority of the interviewees were of the view that the absence of regulatory transparency is a key and also recurrent obstacle affecting the downstream petroleum sector. In order to change this perception, the regulators should ensure transparency in all regulatory processes. This would not only guarantee the predictability of the business environment, but may also prove to be a valuable tool for identifying and addressing inadvertent difficulties in the downstream petroleum sector (R04A, R10A, R05A and R03B).

Another group of interviewees opined that in order for Nigeria's downstream regulatory agencies to appear transparent, the government should increase institutional capacity and empower agencies such as the NEITI to punish any non-compliance of transparency practice (R01B, R02A, R06A and R07B).

iv) Reducing corruption and inefficiency: The participants also highlighted corruption and inefficiency as important factors impacting the transparency practice of Nigeria's downstream regulatory agencies.

One of the participants said: *'The irregular supply of petroleum products, hoarding, acute product shortages, adulteration, smuggling, and long queues were the main features of Nigeria's downstream, simply because of corruption and inefficiency among the regulators. In fact the situation deteriorated because of the low performance of the local refineries, which contributed to the excessive dependence on importation of petroleum products. No doubt these conditions have affected the transparency practice of the regulatory agencies. Until an effort is made by the government to deal with all these issues the perception will remain as it is'* (R01A).

In a similar vein, respondent (R08B) said: *'Even the limited inflow of investments into the downstream sector is due to the non-transparent nature of the regulatory agencies. Most investors avoid investing in the sector because of the uncompetitive pricing structure and the poor incentive mechanism that have accumulated due to a lack of consultation by the regulatory bodies. Proper consultation should be in place.'*

In the same fashion, respondents R06B and R08B agreed and suggested that reducing corruption in the downstream petroleum sector would undoubtedly reduce the perception of poor transparency practice amongst experts and the general public. The Head of NEITI stated during the global Conference of EITI in Australia that the absence of transparency in the acquisition and awarding of import licenses, financing mechanisms, inappropriate disclosures of petroleum products and revenues were characteristic of Nigeria's downstream regulatory agencies. Table 7.3.3.1 provides a summary of the findings relating to the perception that the transparency practices of Nigeria's downstream regulatory agencies are inadequate.

Table 7.3.3.1: Summary of findings in relation to the perception of poor transparency practices of Nigeria's downstream regulators

Question: *Given the responses from the questionnaire, the perceptions of the experts in relation to the transparency practice of Nigeria's downstream regulatory agencies were inadequate. Can you please suggest ways in which these perceptions could be overcome?*			
Codes	***Steps to overcome the perception of poor transparency practice of Nigeria's downstream regulatory agencies***	***Codes***	***Steps to overcome the perception of poor transparency practice of Nigeria's downstream regulatory agencies***
R01A *R01B* *R02A* *R02B* *R03A* *R03B* *R04A* *R04B* *R05A,* *R05B*	***i) Public sensitisation*** • *Publicising all relevant information, using all available means* • *Consulting all stakeholders on certain decisions* • *Allocating an adequate number of votes to the public affairs unit* ***ii) Eradication of Nepotism*** • *Sincerity in the recruitment process* • *Passing a law that will enable the general public to have access to certain information* • *The process which awards current licenses to companies should be reviewed and disclosed to the public*	*R06A* *R06B* *R07A* *R07B* *R08A* *R08B* *R09A* *R09B* *R10A* *R10B*	***iii) Effective monitoring*** • *National Assembly to closely monitor the activities of the regulators* • *Empowering agencies such as the NEITI to punish noncompliance* ***iv) Lowering Corruption and inefficiency*** • *The Government should strive to ensure that the refineries are working at full capacity* • *The Government should attempt to attract foreign investors* • *The Government should punish any oil marketers and regulators who have committed subsidy fraud.*

7.3.4 Concerns relating to the inadequate utilisation of skills in the sector

The regulatory agencies should have appropriate technical expertise in the areas relevant to regulatory governance. Moreover, management staff should have the ability to recruit staff with the necessary skills and technical expertise to be able to carry out regulatory functions. In addition, the regulatory body should remain up-to-date with developments in relation to regulatory governance (Quintyn et al., 2003).

The findings from the questionnaire survey reveal that although the regulators possess the required skills to regulate the sector, these skills were not being fully utilised. This resulted in further investigation and each of the interviewees was asked the following question:

Despite the perception amongst experts that Nigeria's downstream regulatory agencies have the necessary skills to regulate the sector effectively, these same experts believe these skills are not being fully utilised. Why might this be the case and how can it be remedied?

From the responses received, it would appear that the majority of the interviewees did not dispute the fact that the regulators had the required skills. They then listed the many reasons which may account for the poor utilisation of such talents.

Respondent (R02A) pointed out that: *'Whatever the skills Nigeria's downstream regulators have, it will be very difficult to fully utilise them because of government intervention in the sector.'*

In support of this view, respondent (R07B) observed that: *'Interference from the government, politicians, lack of autonomy and poor budget allocation are the major factors that hinder the expertise of Nigeria's downstream regulatory agencies.'*

In similar fashion another respondent stated: *'Anything concerning staff promotion or postings was usually not based on merit. There is no doubt preferential treatment among the regulators affects the utilisation of their skills.'* (R01A). This respondent added: *'It is demoralising when you see that some junior officers were given certain tasks that were supposed to be handled by senior staff.'*

Furthermore, a participant working in a regulated company (R09B) commented: *'Most of these regulators don't have the willingness to regulate the sector, they prefer to be posted only where they will collude with company officials and make money.'*

Some interviewees asserted that the deterioration in infrastructure in the downstream sector has affected the regulators' working conditions. For example, it has become very difficult to source petroleum products in the country because the refineries are operating at average capacity. The transportation of petroleum products is another challenge affecting the regulators' skills, as the regulators are not in a position to prevent pipeline vandalism. In addition, even the bridging policy that was introduced

in order to allow the transportation of petroleum products by trucks is affected by the sub-standard condition of the road surfaces (R10A, R08B, R04A and R05B).

In contrast, respondents R03A, R06B, R09A, R03B and R01B were of the view that it was the absence of planning and clear responsibilities that have affected the utilisation of the regulators' skills in the sector. These respondents believe that the sheer number of regulatory bodies in the sector obstructs the expertise of the regulators. The general public is even confused over which body, the NNPC, DPR or PPPRA, is responsible for the regulation of the downstream sector.

In summary, the majority of the respondents were of the opinion that the issue surrounding the poor utilisation of skills can only be remedied when the regulatory agencies are free from interference. On the other hand other interviewees argued that, until the government deals with the corrupt elements amongst the regulators, the attitude of those who conspired with other industry officials will not change. A few participants asserted that improvements in the infrastructure would result in the full utilisation of regulators' skills. Table 7.3.4.1 summarises the findings relative to the above question.

Table 7.3.4.1: Summary of the findings relating to the inadequate utilisation of Nigeria's downstream regulators' skills and the way forward

<table>
<tr><td colspan="4">Question:
Despite the perception held by experts that Nigeria's downstream regulatory agencies have the necessary skills to regulate the sector effectively, these same experts believe the skills are not being fully utilised. Why might this be the case and how can it be remedied?</td></tr>
<tr><td>Codes</td><td>Reasons for the poor utilisation of regulators' skills and the way forward</td><td>Codes</td><td>Reasons for the poor utilisation of regulators' skills and the way forward</td></tr>
<tr><td>R01A
R01B
R02A
R02B
R03A
R03B
R04A
R04B
R05A
R05B</td><td>i) Reasons for not fully utilising skills
• Government elite's interference
• Lack of autonomy
• Poor budget allocation
• Preferential treatment among staff of the regulatory agencies
• Staff prefer to be posted only where they can conspire with company officials and gain financially
• Pipeline vandalism</td><td>R06A
R06B
R07A
R07B
R08A
R08B
R09A
R09B
R10A
R10B</td><td>Infrastructural decay in sector.
ii) Way forward
• There should only be one regulator
• Regulators should be free from interference
• The government must deal with corrupt elements among regulators
• New infrastructure is required</td></tr>
</table>

7.3.5 Concerns relating to the reasons behind the material differences between the major respondent groups

From the findings of the questionnaire survey in Chapter Six, it is evident that the perception held by the major stakeholders differs significantly regarding the accountability and transparency practices in Nigeria's downstream regulatory agencies. This issue created the need to interview other experts in the sector so as to ascertain the reasons behind the disagreements. Therefore, all twenty interviewees were asked the following question:

From the findings of the questionnaire, it would appear that the perception held by the respondents working in Nigeria's Extractive Industry Transparency Initiative (NEITI), Civil Society (CS) and Trade Union (TU) were materially different from that of respondents connected to the Department of Petroleum Resource (DPR) and Petroleum Products Pricing Regulatory Agency (PPPRA) in relation to the accountability and transparency practices of Nigeria's downstream regulatory agencies. Why would these experts have different viewpoints?

Mixed responses were received from the interviewees. Twelve out of the twenty respondents asserted that the NEITI, CS and TU were in a better position to assess the accountability and transparency practices of the regulators (DPR and PPPRA). On this note, the regulators might repudiate any allegation of issues relating to poor accountability and transparency practices.

A participant from Civil Society stated: *'NEITI, as an agency that is mandated to ensure accountability and transparency practice, and PPPRA and DPR were indicted by various audit reports on issues concerned with accountability and transparency practices. Hence this will be part of the material differences of their perception'* (R06A).

One interviewee from a regulatory agency (R03A) observed that: *'I am very optimistic that the modes of operations of these important stakeholders are varied, both use different indices in arriving at their findings. Therefore, is not surprising to have a different perception between them.'*

Similarly, a respondent from a regulated entity stated: *'The first group (NEITI, CS and TU) are the layer that holds the second group (DPR and PPPRA) accountable, hence, the different view'* (R08B).

The above assertion is consistent with the assertion made by the NEITI's Executive Secretary, who commented that: *'the management of the Department of Petroleum Resources (DPR) should place all licenses and contracts in the public domain in conformity with global best practice and standards.'*

However, another respondent commented: *'The major mandate of NEITI is to promote due process and ensure transparency and accountability in the use of oil revenues and PPPRA has been mismanaging the generated revenues. This might be the reason for the differences'* and added that: *'Unfortunately, DPR and PPPRA are government agencies and these agencies tend to lean towards the side of the government while NEITI, CS and TU are non-governmental organisations who take a critical approach to government's actions thereby creating a checkmate in government's activities'* (R01A).

In general, the majority of the interviewees agreed that the lack of accountability and the extent of corruption in the downstream sector were the main reasons behind the differences in perceptions held by the stakeholders. A summary of the findings is presented in the Table 7.3.5.1.

Table 7.3.5.1: Summary of the different perceptions held by major stakeholders in relation to the transparency and accountability practice of Nigeria's downstream regulators

<table>
<tr><td colspan="4">Question:
From the findings of the questionnaire, it would appear that the perceptions of the respondents from the Nigeria's Extractive Industry Transparency Initiative (NEITI), Civil Society (CS) and Trade Union (TU) were materially different from those of the Department of Petroleum Resource (DPR) and Petroleum Products Pricing Regulatory Agency (PPPRA) in relation to the accountability and transparency practices of Nigeria's downstream regulatory agencies. Why would these experts hold different views?</td></tr>
<tr><td>Codes</td><td>Reasons for the differences in perception between major stakeholders</td><td>Codes</td><td>Reasons for the differences in perception between major stakeholders</td></tr>
<tr><td>R01A
R01B
R02A
R02B
R03A
R03B
R04A
R04B
R05A,
R05B</td><td>• NEITI, CS and TU are in a better position to assess the accountability and transparency practice of the regulators
• DPR and PPPRA, as regulators, might repudiate any allegation of noncompliance to the accountability and transparency principles
• Various audits, including that of the NEITI, reveal that the PPPRA and DPR were neither accountable nor transparent, although they always denied this fact. Hence, this is the reason for the different perceptions.</td><td>R06A
R06B
R07A
R07B
R08A
R08B
R09A
R09B
R10A
R10B</td><td>• Because the modes of operations of these important stakeholders varied. Both used different indices to arrive at their decision
• The NEITI, CS and TU make up the layer that holds the second group, the DPR and PPPRA accountable, hence, the different viewpoint'</td></tr>
</table>

7.3.6 Concerns relating to Nigeria's downstream regulatory agencies' ability to assist the government in meeting its societal aims and objectives

According to the literature on regulatory governance, the main responsibility of regulatory agencies is to protect the interests of the general public and to assist the government in providing social welfare (OECD, 2009; Croley, 2000). However, it is evident from the questionnaire findings that the Nigeria's downstream regulatory agencies do not discharge their regulatory responsibility in the interest of the general public. Indeed, the reason for seeking further clarification was to test the Public Interest Theory of regulation, with the aim of determining whether or not Nigeria's downstream regulators take decisions in the interest of the general public. This resulted in the emergence of the question below.

Do you agree that the performance of Nigeria's downstream regulatory agencies assists the ability of the government to meet its societal aims and objectives?

The responses recorded from the interviewees agreed with the initial findings of the questionnaire. Seventeen out of the twenty interview participants disagreed that the performance of Nigeria's downstream regulatory agencies assisted the government to meet its social objectives. The most significant assertions made by the interviewees who were in disagreement are given below.

A participant from Civil Society said: *'No, I totally disagree. The government is using these agencies to their own advantage'* (R05B).

Similarly, a respondent from the National Assembly (R08A) stated: *'As it is now, the aims of establishing these regulatory agencies are defeated because they are only serving the interest of regulated companies.'*

Concurring with this assertion, respondent (R03A) added: *'You can see how the regulated companies avoided any punishment, despite indictment from many credible organisations, including the National Assembly.'*

Another interviewee from a regulatory agency commented: *'The majority of the decisions taken by these regulatory agencies are either based on personal interest, or the interest of other powerful government officials including politicians and the elite. Therefore, their performance does not help the government in achieving its objectives' (R07B).*

Similarly, respondent (R10A) argued that: *'The underperformance of Nigeria's downstream regulatory agencies is very alarming. As such, they are unable to assist the government in providing social welfare.'*

Many interviewees believed that any evidence of malpractice in the downstream sector was sufficient to convince the public that the regulators were not assisting the government to safeguard the welfare of the citizens. This finding is consistent with

the argument of Oformiyon (2012, p. 22) that 'the public grievance at the beginning of 2012 over the now periodic pump price increases is inter alia caused by lack of domestic refining capacity, faulty regulatory policy and lack of transparency as well as the excessive corruption in the sector; by marketers who make bogus claims to the regulatory authorities whose officials connive to inflate figures of imported products and share allocations meant for stabilising fuel pump prices within the pump price regulatory regime.'

In line with the above, respondent R04A observed that: *'The regulated companies were able to perpetuate the fraud committed during the subsidy regime with the help of field officers from DPR and PPPRA at various stages of fuel importation and distribution. This kind of attitude will not benefit the public.'*

However, a respondent from Civil Society (R09A) argued: *''I disagree with the assertion that the performance of the regulator assists the Nigerian pubic. It is well known that kerosene was supposed to be N50 per litre, but the ordinary Nigerian's are paying higher when the product becomes available and the regulators are actually not bothered about this irregularity.'* The respondent continued: *'It is very unfortunate that kerosene, used by the citizenry for their everyday survival, costs more than other petroleum products. It is even more frustrating that the present suffering faced by the majority of the masses that depend on kerosene could be traced to sharp business practices from people in and around government and its regulatory agencies.'*

Moreover, one of the interviewees from the National Assembly said: *'I disagree, because for several years, Nigeria has experienced shortages of petroleum products that have crippled economic activities in the country, which have augmented the cost of doing business several times. Indeed, the scarcity unavoidably contributes to the problem of adulterated products in the market. This usually results in damage to vehicles and machines'* (R10B).

Another participant from the Civil Society stated that: *'There is this perception that the activities in the oil sector are gradually being considered a curse by some communities, because the sector is affecting the means of their livelihood by*

destroying their environment. To be sincere, the performance of regulators does not help in this regards' (R09B).

In contrast, only three interviewees were of the opinion that the performance of the regulatory agencies facilitates the government in meeting its social objectives.

One of the interviewees from a regulatory agency stated: *'Yes I agree the performance of Nigeria's downstream regulatory agencies assists the government effort to provide welfare to the general public. Despite the problem that emerged regarding subsidies, the policy is assisting the public in so many ways, ranging from reducing the cost of transportation, power generation and cooking gas'* (R01A).

Similarly, respondent R03B observed: *'If the performance of these regulatory agencies does not help assist citizens, why did the public resist the removal of a fuel subsidy in January 2012?'*

In summary, the majority of the respondents disputed the ability of the regulatory agencies to assist the government in achieving its social objectives. Hence it could be said the perception held is in contrast to the Public Interest Theory of Regulation. Table 7.3.6.1 summarises the findings.

Table 7.3.6.1: Summary of perceptions on whether the performance of the regulators facilitates the government to meet its social aims and objectives

<table>
<tr><td colspan="4">Question:
Do you agree that the performance of Nigeria's downstream regulatory agencies facilitates the government to meet its societal aims and objectives?</td></tr>
<tr><td>Codes</td><td>Performance of the Nigeria's downstream regulators in meeting societal aims and objectives</td><td>Codes</td><td>Performance of the Nigeria's downstream regulators in meeting societal aims and objectives</td></tr>
<tr><td>R01A</td><td rowspan="9">The majority disagreed based on the following reasons:
• The government is using these agencies to their own advantage
• Regulators are serving the interest of regulated companies
• The regulators' performance does not help the government to achieve its objectives</td><td>R06A</td><td rowspan="9">The reason for the agreement of the two respondents
• Despite the problem that emerged regarding subsidies, the policy is assisting the public in so many ways, ranging from reducing the cost of transport, power generation and cooking gas.
• If the performance of these</td></tr>
<tr><td>R01B</td><td>R06B</td></tr>
<tr><td>R02A</td><td>R07A</td></tr>
<tr><td>R02B</td><td>R07B</td></tr>
<tr><td>R03A</td><td>R08A</td></tr>
<tr><td>R03B</td><td>R08B</td></tr>
<tr><td>R04A</td><td>R09A</td></tr>
<tr><td>R04B</td><td>R09B</td></tr>
<tr><td>R05A</td><td>R10A</td></tr>
</table>

R05B	• *Regulators are perpetuating fraud at the expense of the general public*	*R10B*	*regulatory agencies does not assist citizens, why did the public resist the removal of fuel subsidy in January?*

7.3.7 Concerns regarding the mitigation of challenges affecting the performance of Nigeria's downstream regulatory agencies.

The findings from both the questionnaire and the interviews revealed that the adoption of good regulatory governance practice by Nigeria's downstream regulatory agencies was bogged down by various challenges. Therefore it was imperative for this empirical investigation to identify the best means of mitigating these challenges. It is against this background that the thesis sought the opinion of experts on the most effective way to enhance the regulatory governance practice of Nigeria's downstream regulatory agencies. The twenty interviewees were asked the following question:

What steps should be taken to enhance the performance of the Nigeria's downstream regulatory agencies?

The majority of the respondents were of the opinion that the government's willingness to improve the infrastructure, and to open up the sector to more investors, would surely mitigate any challenges. The most relevant points made by the interviewees in relation to this assertion are detailed below.

A participant from the regulatory agencies commented: *'The regulators should be allowed to do their work without government and political interference, budget allocation should be improved and they should be made more autonomous'* (R03B).

Similarly, another interviewee (R06A) argued that: *'Nigeria's downstream regulators can only practice good regulatory governance if the sector is fully deregulated. As long as the government controls certain activities the regulators will not be able to achieve their desired objectives.'*

In addition, a respondent from a regulated company stated: *'It is only the deregulation of the downstream oil sector that will improve the efficiency of the*

regulators. This will bring in the forces of demand and supply in determining the actual costs of petroleum products in the sector' (R07A).

The perceptions of the above interviewees are closely related to those of the Nigerian government. In recent years the government has advocated the deregulation of the downstream sector based on the perceived social burden. Indeed, the Ministry of Finance was quoted to have declared:

Deregulation of the downstream oil sector promises to be the way forward in expanding opportunities for economic growth and a competitive downstream petroleum sector. If regulation in the downstream sector is limited to oversight and supervisory functions, aimed at guaranteeing quality of products and preventing consumer exploitation, then the process of deregulation could help achieve greater cost-effectiveness (Excerpts from Ministry of Finance).

In support of this assertion, one respondent from a regulatory agency agreed that: *'Without deregulation of Nigeria's downstream petroleum sector, it will be very difficult to attract investors'* (R02A).

Another respondent proclaimed: *'Until there is enough refining capacity within the country, which might stop the importation of petroleum products, the regulatory agencies will find it hard to perform their regulatory duties effectively'* (R01A)

Also supporting the above assertion, another participant observed that: *'It does not make sense for the country that is producing crude oil to be importing refined petroleum products. I think the government should put more effort into advancing the refineries and should also allow private investors to build new refineries. Indeed, by the time this is done the performance of the regulatory agencies must improve'* (R04B).

On the other hand, a respondent from NEITI said: *'All stakeholders have to come together and address the problems of corruption, crude theft, vandalisation, unemployment and insecurity. This is the only way to enhance the performance of Nigeria's downstream regulatory agencies'* (R05A).

One of the interviewees from the National Assembly commented: *'Until effective and unbiased legislation for downstream sector is passed, the regulators will continue to underperform'* This respondent continued by adding: *'I think when the government comes up with environmental laws and other relevant laws, and adequately funds the regulatory agencies which will enable them to enforce such law, this will enhance the regulators capacity in relation to implementing their regulatory policies'* (R04A).

A respondent from Civil Society claimed: *'So many people begin to cast doubt on the proposed Petroleum Industry Bill PIB, currently before the National Assembly because of the powers vested to the minister and the president which the legislature said is the major reason for the delay in passing the bill. But it is our hope that the National Assembly will correct the ambiguous areas in order for the regulatory agencies to be free from interference'* (R06B).

In addition, a participant from the regulatory agencies stated: *'The government should be determined to maintain and develop a good railway system for the mass transportation of petroleum products across different regions'* (R07B).

A trade union respondent observed that: *If the regulatory agencies ensure the availability of petroleum products at affordable prices, I am optimistic this will stimulate demand and lead to higher production and productivity, which will lead to job creation and economic growth. Hence, their performance will be appreciated'* (R10A).

Table 7.3.7.1: Summary of proposed steps, aimed at enhancing the performance of the Nigeria's downstream regulatory agencies

Question: *What steps should be taken to enhance the performance of Nigeria's downstream regulatory agencies?*			
Codes	***Steps required to enhance the performance of Nigeria's downstream regulators***	***Codes***	***Steps required to enhance the performance of Nigeria's downstream regulators***
R01A *R01B* *R02A* *R02B* *R03A* *R03B* *R04A* *R04B* *R05A,* *R05B*	• *The government should improve infrastructure* • *Limiting political interference* • *Financial autonomy* • *Full deregulation of the sector* • *Regulators should be sincere* • *Effective and unbiased new legislation* • *Ensuring availability of petroleum products at affordable prices* • *Power to reprimand companies* • *Nepotism in the sector should be eliminated*	*R06A* *R06B* *R07A* *R07B* *R08A* *R08B* *R09A* *R09B* *R10A* *R10B*	• *Ensuring adequate refining capacity within the country* • *Encouraging private investors to build new refineries* • *Stakeholders must co-operate and address the problems of corruption, crude oil theft, vandalism, unemployment and insecurity* • *Passing of new environmental laws and other relevant mandates* • *Maintenance and development of new railway system for the mass transportation of petroleum products*

7. 4 Conclusion of the interview chapter

This chapter has presented and analysed the findings of interviews conducted with twenty research participants. The participants were asked seven questions which required further clarification, relating to the issues emerging from the findings of the questionnaire survey in Chapter Six.

Firstly, all the interviewees reiterated that there were certain issues affecting the independence of Nigeria's downstream regulators. The majority of the respondents named political interference, poor legislation, external influence on regulated companies and inadequate financial allocation as the major factors impeding the regulators' autonomy. Secondly, in relation to accountability practice, the interviewees reaffirmed that the regulators of Nigeria's downstream sector performed ineffectively in that regard. The research participants attributed the shortcomings of the legal institutions, a lack of clear goals and poor motivation as significant

contributing factors affecting the accountability practices of Nigeria's downstream regulators.

Thirdly, the majority of respondents were optimistic that effective public sensitisation, the eradication of nepotism and the reduction of corruption and inefficiency would help to overcome the perception that there is a lack of transparency in Nigeria's downstream regulations. Furthermore, in response to the fourth question, the interviewees suggested that a single independent regulator, unrestricted by external interference, should deal with corrupt officials and that investment in new infrastructure might ensure that the regulators' skills were optimally utilised. The findings relating to the fifth question were similar to those of the previous chapter; the majority of the interviewees were of the opinion that as the most important stakeholders were engaged in a variety of operations, they all used different indices to arrive at their decision, hence, the different perceptions.

In response to the sixth question, seventeen out of the twenty respondents disagreed that the performance of the regulators assisted the government to meet its social objectives. The respondents believed that the government used these agencies to their own advantage and that the regulators only served the interests of regulated companies. Lastly, the interviewees opined that a number of factors, namely: limiting political interference; increasing financial autonomy; full deregulation of the sector; sincerity amongst regulators; effective and unbiased new legislation; ensuring the availability of petroleum products at affordable prices; granting regulators the necessary power to admonish companies; and the elimination of nepotism would all improve the performance of Nigeria's downstream regulatory agencies.

CHAPTER EIGHT

Summary and conclusion

8.1 Introduction

This study has investigated the regulatory governance practice and the applicability of the Public Interest Theory of regulation as a theoretical framework in Nigeria's downstream petroleum sector. Furthermore, the study sought evidence that could potentially resolve the issues identified in the literature relating to Nigeria's downstream regulatory governance practice. Thus the empirical analysis centered only on issues relating to the good regulatory governance practices of Nigeria's downstream regulatory agencies. There were a number of reasons why Nigeria's downstream sector was selected for this study.

1) There have been many reported cases directly related to regulatory governance issues within Nigeria's downstream regulatory agencies. For example, instability of the price of petroleum products, petroleum product shortages, petroleum subsidy issues, and the lack of disclosure regarding the actual quantity of petroleum products refined locally and imported (see Chapter 3 for details).

2) The regulatory agencies were established to regulate the sector in the best interests of Nigeria's citizens. However, from the findings it would appear that the regulators are failing in this regard. Therefore the Public Interest Theory of regulation is deemed suitable and beneficial as a theoretical framework underpinning the current study.

3) The abovementioned problems suggested that it was essential to investigate why regulatory governance issues were emerging in Nigeria's downstream petroleum sector and how these could be overcome. On this note, the Public Interest Theory that served as the guiding principle in the study justified the opinion that to ensure good regulatory governance practice, regulators should be autonomous, accountable, and transparent and above all possess regulatory expertise. Indeed, this would help mitigate future regulatory governance challenges. The findings could also prevent stagnation of Nigeria's downstream petroleum sector.

The methodological technique employed in this thesis involves: (i) a critical literature review on regulatory governance around the world and regulatory governance issues in Nigeria's downstream petroleum sector (see Chapters 2 and 3); (ii) the theoretical framework and the research methodology that underpin this research were thoroughly discussed (see Chapters 4 and 5); and (iii) the questionnaire and the interview survey findings were obtained from stakeholder groups (see Chapters 6 and 7). From data collected from the experts and the application of the theoretical framework (Public Interest Theory), it was possible to make relevant recommendations that would benefit the stakeholders of Nigeria's downstream petroleum sector. Moreover, following a critical analysis of the findings, it was possible to recommend areas of future research.

The aim of this chapter is to summarise the discussions in the preceding chapters and to conclude this study. Accordingly, the remainder of the chapter is divided into the following sections. Section 8.2 presents the summary of the whole thesis. Section 8.3 discusses and presents the contributions that arose from the theoretical and empirical investigations, while section 8.4 offers recommendations for future research. Finally, section 8.5 highlights the limitations that emerged during the course of the study.

8.2 Summary of the research findings

This study investigated Nigeria's downstream regulatory governance practice with the aim of determining whether the regulatory agencies discharged their duties in the interest of the general public (fit for purpose). The previous chapters discussed and presented the main arguments of this thesis. Chapter one introduced the aim of the research and in Chapter two general literature relevant to regulatory governance was reviewed in order to accomplish the objectives of the study. As a result, a number of regulatory governance issues were exposed, including market failure, unbalanced market operations, and information asymmetry among others (see Chapter Two). Moreover, the review discovered that the welfare of the general public can only be guaranteed through good regulatory governance practice. The general review also identified a basic regulatory governance framework that regulatory agencies must adhere to in order to achieve good regulatory governance practice (see Chapter Two).

Furthermore, the literature reviewed in Chapter Three revealed that Nigeria's downstream petroleum sector, like any other downstream sector, has it rules and regulations enshrined in the country's petroleum Act (see Chapter Three), with the aim of implementing the policies in the interest of the general public. Thus, like other nations, Nigeria established regulatory agencies in its downstream petroleum sector to regulate the business activities for the welfare of its citizens, as well as to control any harmful business conduct by regulated companies. The review further discovered that the Nigeria's downstream petroleum sector faces many regulatory governance challenges (Chapter Three).

Chapter Four reviewed the theories that could be adopted in a regulatory governance study. The adoption of the Public Interest Theory of regulation as a suitable theoretical framework for this study was further informed from the literature findings. Indeed, the most significant factor influencing the welfare of the general public is the effectiveness of the regulatory agencies in implementing a credible regulatory policy. Therefore one general reason behind the creation of Nigeria's downstream regulatory agencies was to ensure that the rules and regulation were effectively and efficiently designed and implemented for the benefit of all. Consequently, the adoption of the Public Interest Theory of regulation underpins this study. Chapter Four also reviewed other theories and stated the reasons why they were rejected.

In Chapter Five, a thorough review of the research methodology and the philosophical assumptions informed the adoption of the pragmatic paradigm for this study, as advocated by many researchers such as Bryman (2004), Tashakkori and Teddlie (1998) and Creswell (2003). The pragmatic approach is widely used in many social science and mixed-method researches (Meeker, 1994; Morse, 1991). The underlying assumption of the pragmatic approach is that the best means of gathering knowledge is to adopt a combination of both positivist and interpretive approaches. Furthermore, the choice of the mixed-method research for this study was informed by the methodology review and it is deemed to be appropriate as the study employed both the questionnaire and interview. As guided by the pragmatic paradigm, the questionnaire and interview were used as data-gathering tools for this thesis. The decision to use a triangulating questionnaire and interview was due to the fact that

the weakness of one approach could be overcome by the other. The questionnaire was appropriately designed and piloted twice before it was administered to the respondents. After gathering the data, non-parametric statistics were used to analyse the data. First, descriptive statistics tests were run, which informed the use of the Mann-Whitney test to determine whether any differences existed between the respondent groups and then cross-tabulation tests were conducted to help ascertain the responses within the groups. In particular, the analysis focused on testing the opinion of the respondents in relation to the four main hypotheses developed for this study.

8.2.1 Summary of the findings relating to the independence of Nigeria's downstream regulatory governance

Evidence from the literature suggests that to ensure effective and efficient regulatory governance practices, regulatory agencies should be independent in discharging their regulatory duties (Cubbin and Stern, 2006). However, evidence from the empirical findings revealed that there are certain issues that can affect the independence of Nigeria's downstream regulatory agencies. The overall findings from both the questionnaires and the interviews indicate that the three regulatory agencies (DPR, PPPRA and PEF) lack the required regulatory independence, as a result of political interference and regulatory capture which constrain the regulators' autonomy. The entire set of variables used to measure the level of independence of Nigeria's downstream regulatory governance was found to be absent. Under this condition, it might prove difficult for the regulators to safeguard the welfare of the general public by advocating the Public Interest Theory of regulation. From the findings, it would appear that Nigeria's downstream regulatory governance practices are not consistent with the principles of good regulatory governance (see Chapter Two). In this regard, the findings, as evident from the perceptions of the respondents, suggest that Nigeria's downstream regulatory agencies require a significant level of independence in order for regulatory governance practice to be fit for purpose.

8.2.2 Summary of the findings relating to the accountability practice in Nigeria's downstream regulatory governance

An effective accountability practice is a vital mechanism in any regulatory governance regime. On a general note, the main findings relating to the accountability practice of Nigeria's downstream regulatory agencies discovered inadequacies in the way in which the regulators control accountability. The findings revealed that there are no acceptable mechanisms that could ensure efficient accountability practice within the agencies. Moreover, the empirical test revealed that out of the three regulatory agencies mandated to regulate the sector, only one (PEF) has an element of accountability. The findings further highlight the fact that there is evidence of deficiencies in accountability practice in Nigeria's downstream regulatory governance. The perceptions of the respondents indicate that much needs to be done to improve disclosure practices and audit mechanisms in order for regulatory governance practice to be fit for purpose.

8.2.3 Summary of the findings relating to transparency practice in Nigeria's downstream regulatory governance

The findings of the analysis disclosed that the respondents disagreed with the statement that legitimate stakeholders received accurate and timely information. Respondents were of the view that when regulatory authorities refrained from disclosing confidential information, the rationale for such non-disclosure should be clearly justified. In this regard, the findings suggest the need for the enhancement of transparency practice among regulatory agencies. Moreover, the respondents opined that all the activities in Nigeria's downstream petroleum sector lack transparency, openness and fairness.

On this note, the findings further indicate that the current regulatory governance practices, in relation to the transparency practice of Nigeria's downstream regulatory agencies, are not consistent with international best practices. Therefore the government and regulatory agencies should strive to guarantee transparency in order to meet international best practice.

8.2.4 Summary of the findings relating to the level of expertise in Nigeria's downstream regulatory governance

In general, the findings of this investigation revealed that the three regulatory agencies (DPR, PPPRA and PEF) had a reasonable level of expertise in regulatory governance; however, their skills were not being fully utilised. This was a result of many factors, including political interference, poor motivation and weak infrastructure. However, respondent opinions indicated the need for improvement in terms of the manner in which personnel discharged their regulatory duties. Moreover, it was felt that appointments to head regulatory agencies should be strictly based on merit and proven integrity.

Lastly, the overall findings suggest that the Public Interest Theory is applicable in the study of regulatory governance of downstream petroleum sector. However, Nigeria's downstream regulatory agencies have failed to act in the interest of the general public. The results of the findings indicated that the general public are dissatisfied by the way in which Nigeria's downstream regulatory agencies are governing the sector. Hence, the regulatory governance practice in the sector is not fit for purpose.

8.3 Contributions of the study

This study has explored good regulatory governance practices within Nigeria's downstream regulatory agencies. Its major points of significance are set out below.

Firstly, this study is the first research that empirically investigates the regulatory governance practices of Nigeria's downstream petroleum sector. Secondly, this thesis is the first to adopt the Public Interest Theory of regulation as a vehicle to scientifically explore whether Nigeria's downstream regulators protect the interests of Nigeria's citizens. This is significant as the results have revealed that the agencies' decisions do not reflect the interests of Nigeria's citizens. Therefore this will assist policy makers to ensure that a holistic approach is taken to guarantee adherence to this important responsibility. Thirdly, the application of the Public Interest Theory of regulation in this study will enable other researchers to apply it to other countries, or to different sectors, to ascertain whether regulators are serving interests other than those of the general public.

Fourthly, another significant contribution made by this thesis is that it has empirically measured and presented the actual status of the regulatory governance practices of Nigeria's downstream agencies. In this regards, the study was able to identify the factors that prevent Nigeria's downstream regulatory agencies from adhering to good regulatory governance practice. This may motivate regulators to introduce ways of eliminating these factors.

Fifthly, the differences in the perceptions discovered between the major stakeholders is evidence that the regulatory governance practice of Nigeria's downstream regulators is deficient. The findings of this thesis will assist the government, regulators and other countries with similar issues to mitigate deficiencies, such as unfairness in the recruitment process, corruption and interference in the regulatory process. Furthermore, the results will enable regulators, the government and policy makers to implement efficient legislation which will ensure that the necessary mechanisms for regulatory independence, accountability and transparency are in place.

In general, it is the conclusion of this thesis that good regulatory governance practice is deficient in Nigeria's downstream petroleum sector and in fact is not fit for purpose. Although the proposed Petroleum Industry Bill (PIB) was sent to Nigeria's parliament for consideration many years ago, the inability of the lawmakers to pass it has continued to jeopardise the regulatory governance regime, particularly the downstream petroleum sector. If the bill were to be passed into law, this might improve regulatory governance practices in the downstream petroleum sector as the bill supports the harmonisation of the three regulatory agencies into one regulatory authority, which could address the issue of overlapping responsibilities. On the other hand, a number of interviewees criticised the PIB for proposing that ministers and the president are granted more power.

8.4 Recommendations

1. Recommendations for regulatory agencies

(a) Economic development: It is a recommendation of this thesis that regulatory agencies should be free from political interference for the purpose of economic development, since the significance of the downstream petroleum

sector cannot be over-emphasised. Indeed, most Nigerians depend on petroleum products for their everyday survival, including for transportation and cooking which rely on petroleum products in the absence of alternative fuel. Consequently, this research could have significant economic consequences for Nigeria if political interference was to be eliminated.

(b) Equality in recruitment and appointment of agencies head: the study findings indicate that the research participants are displeased with the appointment and recruitment process of regulatory agencies personnel, which they believe is biased. Therefore, it is a recommendation of this thesis that all appointment and recruitment processes should be based solely on merit. This will enable regulatory agencies to employ competent staff who will discharge their duties in a professional manner.

(c) Implementation of internationally accounting procedure: The study results, as described in Chapters 6 and 7, highlight many deficiencies in the accountability and transparency practices of Nigeria's downstream regulatory agencies. These include the lack of disclosure, poor consultation and poor auditing processes. In this regard, it is recommended that Nigeria's downstream regulatory agencies adopt internationally recognised and accepted accounting principles. This would assist in mitigating corruption and fraud and ensure good accountability and transparency practice. In addition, it would strengthen investor and other stakeholder confidence to invest in Nigeria's downstream sector.

(d) Strengthening the legal institution: The research findings identified that the regulatory agencies usually conspire with companies to commit fraud. It is therefore suggested by this research that Nigeria's legal system should have adequate capacity to monitor and severely reprimand those regulators and companies that are seeking their own financial gains. This would serve to deter other regulators from following suit.

(e) Designing a comprehensive regulatory framework: From the research findings, it is evident that the Nigeria's downstream regulatory agencies have

no clear aims or objectives. On this note, it is recommended that Nigeria's downstream regulators second a number of regulatory experts to assist them in the design of a comprehensive regulatory framework to ensure all loopholes in the sector are closed. This would enable the regulators to implement good regulatory governance objectives.

(f) Establishment and development of a viable power and energy policy: The research findings highlighted the fact that refineries are not working at full capacity due to a lack of power. In order for Nigeria's downstream regulatory agencies to guarantee credible regulatory governance, investment should be made into improving the almost moribund power sector. Due to the inter-relationship between the energy and the power sectors, one cannot manage without the other. Establishing a viable power and energy policy should be a critical objective. Moreover, it signifies a very powerful and important approach to regulatory governance by the Nigeria's downstream petroleum sector. Having a clear, comprehensive and articulated power and energy policy would undoubtedly enhance the quality of power supply that the refineries and depots require for refining, transportation and the distribution of petroleum products around the country. Thus this thesis strongly recommends that a comprehensive power and energy policy is carefully designed and included in the proposed Petroleum Industry Bill (PIB) that is currently before the legislature for passing into law.

2. Recommendations for further research

It is believed that the results recorded during the investigation have appropriately addressed the scope of the research questions. Nevertheless, it is the recommendation of this thesis that further studies should be undertaken, in particular to investigate the level of regulatory compliance between regulated companies. In the same way that regulatory agencies are responsible for the design and implementation of regulations in an appropriate manner, regulated companies are expected to adhere to the regulations to ensure effective governance in the sector. It is evident from the findings of this study that there is a need for improvements in regulatory governance practice.

Secondly, the Public Interest Theory, which was adopted as the framework for this study, places much emphasis on the welfare of the general public. Therefore it is suggested that a further investigation should be undertaken to ascertain the extent to which the regulatory governance practice of Nigeria's downstream regulatory agencies is affected by regulatory capture. The findings derived from respondents in this study reveal that the regulators in the sector are failing in their responsibility to protect the public's interest. However, this could possibly be due to the fact that the agencies are subjected to great external interference, which results in regulatory capture.

Thirdly, this thesis recommends that additional research focuses on ascertaining the ability of Nigeria's downstream companies to provide effective services to the country. This should include investigating the corporate governance practices of the companies, their financial capability and the capacity of their infrastructure.

Lastly, this thesis recommends that a comparative study should to be undertaken between Nigeria's downstream regulatory agencies and other countries, in relation to their respective regulatory governance practices. This will further assist Nigeria's downstream regulatory agencies to develop their regulatory governance practice.

8.5 Limitations of the study

It is generally believed that the information required in order to enable regulators to govern the system effectively includes financial and other valuable data provided by regulated companies. In this regard, the questionnaire and the interview used in this research did not request any information concerning regulated companies directly. This limited the sources of data available to this study. However, if the research had requested information regarding the level of regulatory compliance by regulated companies; it is likely that other regulatory governance issues would have been discovered.

In addition, the data obtained by this thesis was mainly derived from the input of respondents across various stakeholder groups. This would suggest that the data gathered from the participants limited the results of the study. Indeed, as is a common issue in social science research, the participants may have decided not to provide an objective view, for many reasons. For instance, some respondents may

not have been willing to supply information which contradicted their organisation's official standpoint. Thus this study strived to ensure that such problems were eliminated by carefully selecting participants with a high level of integrity and expertise (Chapter 5).

Another possible limitation is the adoption of a single theoretical framework. As mentioned earlier, although this research adopted the Public Interest Theory as its theoretical framework, there are other theories which could have also been applied here. The literature reviewed in Chapters Two and Three revealed that regulatory governance issues are extensive; therefore the adoption of just one particular framework could not have addressed all the challenges present. Although the adoption of a single framework may have some shortcomings, it is also believed that the implementation of multiple frameworks might further compound the problem and possibly produce negative results. Moreover, in order to mitigate methodological challenges, the research adopted a pragmatic approach, which combined all the qualitative and quantitative methods of data collection and analysis.

The time it took some respondents to complete the questionnaire also proved to be a limitation of this study. A number of respondents took three to four weeks to respond and in some cases some questions were not answered. In order to resolve this problem new dates and times for collection were set and the missing values were mitigated by a MCAR test (see Chapter 6).

References

Abdel-Khalik, A.R. and Ajinkya, B.B., 1979. Empirical Research in Accounting: A Methodological Viewpoint. American Accounting Association Sarasota, Florida.

Adams, M.B. and Tower, G., 1994. Theories of Regulation: Some Reflections on the Statutory Supervision of Insurance Companies in Anglo-American Countries. The Geneva Papers on Risk and Insurance-Issues and Practice, 19(2), pp. 156-177

Adenikinju, A., 2009. Energy Pricing and Subsidy Reforms in Nigeria. URL http://www.oecd.org/dataoecd/58/61/42987402.pdf [accessed 14 December 2011],

Adenikinju, A.F., 1996. Subsidising Domestic Energy Consumption: Implications for the Nigerian Economy. OPEC review, 20(3), pp. 219-234

Afrika, S.S. and Bachmann, S., 2011. Cartel Regulation in Three Emerging BRICS Economies: Cartel and Competition Policies in South Africa, Brazil and India-a Comparative Overview. The International Lawyer, 45(4), pp. 975-1005

Ahmad Khan, S., 1994. Nigeria: The Political Economy of Oil. Oxford University Press, London.

Ahunwan, B., 2002. Corporate Governance in Nigeria. Journal of Business Ethics, 37(3), pp. 269-287

Ajumogobia, O., 2008. Nigeria has Mismanaged its Oil Wealth http://nigeriavillagesquare.com/forum/main-square/27048-nigeria-has-mismanaged-its-oil-wealth-ajumogobia.html (Accessed 12/ 01/2014).

Akande, J.O., 1982. The Constitution of the Federal Republic of Nigeria, 1979: With Annotations. Sweet & Maxwell.

Akpieyi, J. (2009): Managing domestic fuel scarcity: A historical perspective Lagos Pumark Nigeria Limited.

Akpieyi, J., 2009. Managing Domestic Fuel Scarcity. A Historical Perspective Lagos Pumark Nigeria Limited,

Al-Mazeedi, W., 1992. Privatizing National Oil Companies in the Gulf. Energy Policy, 20(10), pp. 983-994

Amaewhule, K., 2006. What are the Constrains Facing the Development and Implementation of an Energy Efficiency Policy in Nigeria and How Can These Be Overcome?

Ameh, M.O., 2005. The Nigerian Oil and Gas Industry: From Joint Ventures to Production Sharing Contracts. African Renaissance Journal of November/December,

Ameh, Madaki O. (2005): the Nigerian Oil and Gas Industry: From Joint Ventures to Production Sharing Contracts African Renaissance Journal of November/December.

Andres, L., Guasch, J. and Azumendi, S.L., 2008. Regulatory Governance and Sector Performance: Methodology and Evaluation for Electricity Distribution in Latin America. World Bank Policy Research Working Paper Series, Vol,

Ansell, C. and Gash, A., 2008. Collaborative Governance in Theory and Practice. Journal Of Public Administration Research and Theory, 18(4), pp. 543-571

Anthony O.O., Eme, O. I.; Emeh, I. E.; 2012. The Domestic and International Implications of Fuel Subsidy Removal Crisis in Nigeria. *Kuwait Chapter of Arabian Journal of Business and Management Review Vol. 1, No.6; (p.61)*

Aranson, P.H., 1989. Theories of Economic Regulation: From Clarity to Confusion. JL & Pol., 6, pp. 247

Armitage, A. and Keeble-Allen, D., 2007. Mutual Research Designs: Redefining Mixed Methods Research Design. Proceedings of the 6th European Conference on Research Methodology for Business and Management Studies. pp. 29-36

Arowolo, O., 2004. Nigeria's Downstream Sector Deregulation Crisis: What Are the Unresolved Issues? Oil, Gas & Energy Law Journal (OGEL), 2(5),

Arrow, K.J., 1969. The Organization of Economic Activity: Issues Pertinent to the Choice of Market Versus Nonmarket Allocation. The Analysis and Evaluation Of Public Expenditure: the PPB System, 1, pp. 59-73

Arrow, Kenneth J. (1970): 'The Organization of Economic Activity: Issues Pertinent to the Choice of Market Versus Nonmarket Allocation', in Haveman,

Averch, H. and Johnson, L.L., 1962. Behavior of the Firm under Regulatory Constraint. The American Economic Review, 52(5), pp. 1052-1069

Ayoade, M.A., 2002. Disused Offshore Installations and Pipelines: Towards" sustainable Decommissioning". Kluwer Law International.

Azaiki, S.S., 2007. Inequities in Nigerian politics: the Niger Delta, Resource Control, Underdevelopment and Youth Restiveness. Y-Books.

Bachmann, S. and Afrika, S., 2011. Cartel Regulations in Emerging Market Economies: Cartel And Competition Policies in South Africa, Brazil and India-a Comparative Overview. The International Lawyer, 45(4), pp. 101-157

Badmus, I., 2013. Fuel-Mix and Energy Utilisation Analysis of Kaduna Refining and Petrochemical Company, Nigeria. International Journal of Energy Engineering, 3(3), pp. 190-199

Badmus, I., Oyewola, M.O. and Fagbenle, R.O., 2012. A Review of Performance Appraisals of Nigerian Federal Government-Owned Refineries. Energy and Power Engineering, 4(1), pp. 47-52

Baghebo, M. and Atima, T., 2013. The Impact of Petroleum on Economic Growth in Nigeria. Global Business and Economics Research,

Baig T., Amine M., David C.,and Joseph N.; (2007: p 8) Domestic Petroleum Product Prices andSubsidies: Recent Developments and Reform Strategies Fiscal Affairs Department IMF Working Paper

Bailey, E.E. and Pack, J.R., 1995. The Political Economy of Privatization and Deregulation. Edward Elgar Pub.

Bailey, K.D., 1983. Sociological Classification and Cluster Analysis. Quality & Quantity, 17(4), pp. 251-268

Baldwin, R., Cave, M. and Lodge, M., 2011. Understanding Regulation: Theory, Strategy and Practice. Oxford University Press.

Barker, J.A., 1993. Paradigms: Business of Discovering the Future, The. HarperCollins.

Baron, D.P., 1988. Regulation and Legislative Choice. The Rand Journal of Economics, pp. 467-477

Barr, A., 1999. Do SMEs network for growth? Enterprise in Africa-Between Poverty and Growth, 1(19), pp. 121-131

Barro, R.J., 1991. Economic Growth in a Cross Section of Countries. The Quarterly Journal Of Economics, 106(2), pp. 407-443

Barro, R.J., 2000. Inequality and Growth in a Panel of Countries. Journal of Economic Growth, 5(1), pp. 5-32

Barth, J., Caprio, G. and Levine, R., 2000. Banking Systems Around the Globe: Do Regulation and Ownership Affect Performance and Stability? 'Policy Research Working Paper (Washington, DC: World Bank), No. 2325.

Barth, J.R., Caprio, G. and Levine, R., 2006. Rethinking Bank Regulation: Till Angels Govern. Cambridge University Press.

Barzel, Y., 1985. Transaction Costs: Are They Just Costs? Zeitschrift für die gesamte Staatswissenschaft/Journal of Institutional and Theoretical Economics, 141(1), pp. 4-16

Bator, F.M., 1958. The Anatomy of Market Failure. The Quarterly Journal of Economics, 72(3), pp. 351-379

Baumol, W.J. and Ordover, J.A., 1985. Use of Antitrust to Subvert Competition. JL & Econ., 28, pp. 247

Baumol, W.J., 1977. On The Proper Cost Tests for Natural Monopoly in a Multiproduct Industry. The American Economic Review, 67(5), pp. 809-822

Baumol, W.J., 2003. Welfare Economics and the Theory of the State. The Encyclopedia of Public Choice, pp. 937-940

Beales, H., Craswell, R. and Salop, S.C., 1981. Efficient Regulation of Consumer Information, The. JL & Econ., 24, pp. 491

Becker, G., 1986. The Public Interest Hypothesis Revisited: A New Test of Peltzman's Theory of Regulation. Public Choice, 49(3), pp. 223-234

Bell, E. and Bryman, A., 2007. The Ethics of Management Research: An Exploratory Content Analysis. British Journal of Management, 18(1), pp. 63-77

Bergara, M., Henisz, W.J. and Spiller, P.T., 1998. Political Institutions and Electric Utility Investment: A Cross-Nation Analysis. California Management review, 40, pp. 18-35

Blaikie, N., 2007. Approaches to Social Enquiry: Advancing Knowledge. Polity.

Blanchetot, C., Tertoolen, L.G. and Den Hertog, J., 2002. Regulation of Receptor Protein-Tyrosine Phosphatase a by Oxidative Stress. The EMBO journal, 21(4), pp. 493-503

Boehm, E., 1972. Prices and Incomes Policies in the United States. Australian Economic Review, 5(2), pp. 37-46

Bogdan, R.C. and Biklen, S.K., 1998. Qualitative Research in Education. An Introduction to Theory and Methods. ERIC.

Borio, C., 2006. Monetary and Prudential Policies at a Crossroads? New Challenges in the New Century.

Botero, J.C., 2004. The Regulation of Labor. The Quarterly Journal of Economics, 119(4), pp. 1339-1382

Braeutigam, R.R. and Panzar, J.C., 1989. Diversification Incentives Under "Price-Based" and" Cost-Based" Regulation. The Rand Journal Of Economics, pp. 373-391

Braeutigam, R.R., 1989. Optimal Policies for Natural Monopolies. Handbook of Industrial Organization, 2, pp. 1289-1346

Brannen, J., 1992. Combining Qualitative and Quantitative Approaches: An Overview (pp. 3–37). Mixing Methods: Qualitative and Quantitative Research.Aldershot: Avebury,

Breyer, S., 1982. Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform. Harv. L.Rev., 92, pp. 547

Breyer, S.G., 2009. Regulation and its Reform. Harvard University Press.

Broadbent, J., Jacobs, K. and Laughlin, R., 2001. Organisational Resistance Strategies to Unwanted Accounting and Finance Changes: The Case of General Medical Practice in the UK. Accounting, Auditing & Accountability Journal, 14(5), pp. 565-586

Brune, N. and Garrett, G., 2000. The Diffusion of Privatization in the Developing World. Documento Preparado Para La Reunión Anual De La American Political Science Association, Washington, 30

Bryman, A. and Cramer, D., 2001. Quantitative Data Analysis with SPSS Release 10 for Windows: a Guide for Social Scientists. Routledge.

Bryman, A., 2012. Social Research Methods. Oxford University Press.

Buchanan, J.M. and Tollison, R.D., 1984. The Theory of Public Choice: II. University of Michigan Press.

Burrell, G. and Morgan, G., 1979. Social Paradigms and Organizational Analysis-Elements of the Sociology of Corporate Life.

Bush, T., 2002. Authenticity-Reliability, Validity, and Triangulation. Research Methods in Educational Leadership and Management, , pp. 59-72

Busha, C.H. and Harter, S.P., 1980. Research Methods in Librarianship: Techniques and Interpretation. Academic Press New York.

Busse, M. and Hefeker, C., 2007. Political Risk, Institutions and Foreign Direct Investment. European Journal of Political Economy, 23(2), pp. 397-415

Cariño, L.V., 2004. Regulatory Governance in the Philippines. Leading Issues in Competition, Regulation and Development. Cheltenham: Edward Elgar,

Cave, M. and Stern, J., 1998. Regulatory Institutions and Regulatory Policy For Economies In Transition. IEA READINGS, 48, pp. 1-26

Chenard, K., Das, U.S. and Quintyn, M., 2004. Does Regulatory Governance Matter for Financial System Stability? An Empirical Analysis. International Monetary Fund.

Chong, A. and De Silanes, F.L., 2005. Privatization in Latin America: Myths and Reality. World Bank-Free PDF.

Chong, A. and López-De-Silanes, F., 2002. Privatization and Labor Force Restructuring Around the World. Public Services, Development Research Group, World Bank.

Christensen, T. and Lægreid, P., 2007. Regulatory Agencies—The Challenges of Balancing Agency Autonomy And Political Control. Governance, 20(3), pp. 499-520

Clark, G. and Monk, A., 2009. The Legitimacy and Governance of Norway's Sovereign Wealth Fund: the Ethics of Global Investment. Available at SSRN 1473973,

Coady, D., 2007. Domestic Petroleum Product Prices and Subsidies: Recent Developments and Reform Strategies. International Monetary Fund.

Cohen, L. and Manion, C., 1994. Triangulation, Research Methods in Education. London: Routledge,

Collis, J. and Hussey, R. (2003): Business Research. Palgrave Macmillan, Hampshire
Conway, P. and Nicoletti, G., 2006. Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights.

Cook, P. and Kirkpatrick, C., 2003. Assessing the Impact of Privatization in Developing Countries. International Handbook on Privatization, pp. 209

Cook, P., 1999. Privatization and Utility Regulation in Developing Countries: The Lessons so Far. Annals of Public and Cooperative Economics, 70(4), pp. 549-587

Cook, P., 2004. Leading Issues in Competition, Regulation, and Development. Edward Elgar Publishing.

Cowhey, P.F. and Aronson, J.D., 1993. Managing the World Economy: The Consequences Of Corporate Alliances. Council on Foreign Relations.

Creswell, J.W. and Clark, V.L.P., 2007. Designing and Conducting Mixed Methods Research. Wiley Online Library.

Creswell, J.W., 2013. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage Publications, Incorporated.

Crocker, K.J. and Masten, S.E., 1996. Regulation and Administered Contracts Revisited: Lessons from Transaction-Cost Economics for Public Utility Regulation. Journal of Regulatory Economics, 9(1), pp. 5-39

Croley, S.P., 2000. Public Interested Regulation. Fla.St.UL Rev., 28, pp. 7

Croninger, R.G. and Douglas, K.M., 2005. Missing Data And Institutional Research. New Directions for Institutional Research, 2005(127), pp. 33-49

Cubbin, J. and Stern, J., 2005. Regulatory Effectiveness and The Empirical Impact Of Variations In Regulatory Governance: Electricity Industry Capacity And Efficiency In Developing Countries. World Bank-Free PDF.

Cubbin, J. and Stern, J., 2006. The Impact of Regulatory Governance and Privatization on Electricity Industry Generation Capacity in Developing Economies. The World Bank Economic Review, 20(1), pp. 115-141

D'souza, J., Megginson, W. and Nash, R., 2001. Determinants of Performance Improvements in Privatized Firms: The Role of Restructuring and Corporate Governance. Working Version,

Dahlman, C.J., 1979. The Problem of Externality. Journal of Law and Economics, 22(1), pp. 141-162

Daily Trust News Paper, 2011. http://dailytrust.com.ng/index.php?option=com_content&view=article&id=150740:revoke-local-firms-oil-licenses-dangiwa-tells-fg-&catid=1:news&Itemid=2 Accessed on 23 December 2011.

Dallal, G. E. (2001): The Little Handbook of Statistical Practice. (Online) http://www.tufts.edu/~gdallal/LHSP.HTM. (Accessed 15/11/2013)

Das, U.S. and Quintyn, M., 2002. Crisis Prevention and Crisis Management: The Role Of Regulatory Governance. International Monetary Fund.

Das, U.S., Quintyn, M. and Chenard, K., 2004. Does Regulatory Governance Matter for Financial System Stability?: An Empirical Analysis. Citeseer.

De Geest, G., 1992. Regulation of Contractual Relations. Bibliography of Law and Economics. Springer. pp. 272-458

Deighton-Smith, R., 2004. Regulatory Transparency in OECD countries: Overview, Trends and Challenges. Australian Journal of Public Administration, 63(1), pp. 66-73

Demsetz, H., 1976. Economics as a Guide to Antitrust Regulation. JL & Econ., 19, pp. 371

Den Hertog, J., 2010. Review of Economic Theories of Regulation. T. Jalling C. Koopmans Institute Discussion Paper Series, 10(18), pp. 1-59

Den Hertog, J., 2012. Economic Theories of Regulation. Regulation and Economics, 9, pp. 25

Denzin, N.K. and Lincoln, Y.S., 2003. Strategies of Qualitative Inquiry. Sage.

Department of Petroleum Resources (DPR), 2012. http://dprnigeria.org.ng/dpr-operations/downstream/roles-of-dpr-downstream/ Accessed 13/ 12/2013

Devine, F., 2002. Qualitative Methods. Theory and Methods in Political Science, 2, pp. 197-215

Dias and Nwete, (2004): Good Governance, Business and Human Rights in Energy Exporting Developing Countries: a Supreme Challenge and Corporate Accountability. Oil and Gas Energy. Thomas Walde and Associates

Dias, A. and Nwete, B., 2004. Good Governance, Business and Human Rights in Energy Exporting Developing Countries: a Supreme Challenge for Corporate Social Responsibility and Corporate Accountability. Oil, Gas & Energy Law Journal (OGEL), 2(4),

Dinar, A., 2000. Political Economy of Water Pricing Reforms. World Bank-free PDF.

Djankov, S., 2002. The Regulation of Entry. The Quarterly Journal of Economics, 117(1), pp. 1-37

Djankov, S., 2003. The New Comparative Economics. Journal of comparative economics, 31(4), pp. 595-619

Dolgin, A., 2009. The Concept of Cultural Welfare. The Economics of Symbolic Exchange. Springer. pp. 251-322

Dublin-Green, W., Nwankwo, J. and Irrechukwu, D., 1998. Effective Regulation and Management of HSE Issues in the Petroleum Industry in Nigeria. SPE International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production.

Dunleavy, P. and Hood, C., 1994. From Old Public Administration to New Public Management. Public Money & Management, 14(3), pp. 9-16

Dunleavy, P., 1994. The Globalization of Public Services Production: Can Government Be'best in world'? Public Policy and Administration, 9(2), pp. 36-64

Dunne, T. and Wheeler, N.J., 2004. 'We the Peoples': Contending Discourses of Security in Human Rights Theory and Practice. International Relations, 18(1), pp. 9-23

Duso, T. and Röller, L., 2003. Endogenous Deregulation: Evidence from OECD Countries. Economics Letters, 81(1), pp. 67-71

Easterby-Smith, M., Thorpe, R. and Jackson, P., 2012. Management Research. Sage Publications.

Ehighelua, I. and Ekpu, A., 2004. Dealing with the Scourge of Sabotage in Nigeria's Oil Industry: the Role of the Law. Oil, Gas & Energy Law Journal (OGEL), 2(1),

Ehinomen, C. and Adeleke, A., 2012. An assessment of the Distribution of Petroleum Products in Nigeria. E3 Journal of Business Management and Economics., 3(6), pp. 232-241

Eisenhardt, K.M., 1989. Agency Theory: An Assessment and Review. Academy of Management Review, 14(1), pp. 57-74

El-Rufai, N. A.; 2011 The Nemesis called Oil & Gas (3) - The Downstream Dilemma http://newsdiaryonline.com/el_nemesis.htm Available at Newsdiaryonline (accessed 20/02/2013)

Eme, O.I. and Onwuka, C.C., 2011. Political Economy of Deregulation Policy in Nigeria: The Challenges Ahead. Journal of Business, 2

Eriksson, P. and Kovalainen, A., 2008. Qualitative Methods in Business Research. Sage.

Estache, A. and Kouassi, E., 2002. Sector Organization, Governance, and the Inefficiency of African Water Utilities. World Bank Policy Research Working Paper, (2890),

Ezeagba, C., 2005. Deregulation of Nigerian Economy: Implications for the Downstream Petroleum Industry. Certified National Accountant,

Federal Ministry of Finance, 2012. http://fmf.gov.ng/the-media/press-release/125-finance-pays-n1925-billion-verified-claims-to-marketers-in-2013.html Accessed 20/10/2013

Fisher, F.M., 1985. The Social Costs of Monopoly and Regulation: Posner Reconsidered. The Journal of Political Economy, 93(2), pp. 410-416

Fontana, A. and Frey, J.H., 2005. The Interview: From Neutral Stance to Political Involvement. The Sage Handbook of Qualitative Research, 3, pp. 695-727

Frey, J.H., 1983. Survey Research by Telephone. Sage Publications Beverly Hills, CA.

Gboyega, and Soreide 2011. Political Economy of the Petroleum Sector in Nigeria. World Bank Policy Research Working Paper Series, Vol,

Geisser, S. and Johnson, W.O., 2006. Modes of Parametric Statistical Inference. Wiley. com.

Gilardi, F., 2005. The Institutional Foundations of Regulatory Capitalism: The Diffusion Of Independent Regulatory Agencies in Western Europe. The Annals of the American Academy of Political and Social Science, 598(1), pp. 84-101

Gilardi, F., 2006. Delegation to Independent Regulatory Agencies in Western Europe. Braun, Dietmar/Gilardi, Fabrizio, , pp. 125-145

Gilardi, F., 2008. Delegation in the Regulatory State: Independent Regulatory Agencies in Western Europe. Edward Elgar Publishing.

Gillies, A., 2009. Reforming corruption out of Nigerian oil? Part one: Mapping Corruption Risks in Oil Sector Governance. U4 Brief, 2009(2),

Glaeser E., J.and Shleifer, A., 2003. The Rise of the Regulatory State Journal of Economics Literature 41 (2)401-25..

Golafshani, N., 2003. Understanding Reliability and Validity in Qualitative Research. The Qualitative Report, 8(4), pp. 597-607

Goodhart, and Charles, 2001. Regulating the Regulators–Accountability and Control. Regulating Financial Services and Markets in the 21st Century, pp. 151-164

Gray, R., Owen, D. and Adams, C., 1996. Accounting and Accountability: Changes and Challenges in Corporate Social and Environmental Reporting. Prentice Hall, London.

Grbich, C., 2007. Qualitative Data Analysis: An Introduction. The Cromwell Press Ltd, Trowbridge, Wiltshire.

Gregory, H.J., 2000. International Comparison of Corporate Governance Guidelines and Codes of Best Practice. New York, Weil.Gotshal & Manges LLP: i,

Guasch, J.L. and Hahn, R.W., 1999. The Costs and Benefits of Regulation: Implications for Developing Countries. The World Bank Research Observer, 14(1), pp. 137-158

Gutiérrez, L.H. and Berg, S., 2000. Telecommunications Liberalization and Regulatory Governance: Lessons from Latin America. Telecommunications Policy, 24(10), pp. 865-884

Hall, R.E. and Jones, C.I., 1999. Why Do Some Countries Produce so much More Output Per Worker than Others? The Quarterly Journal of Economics, 114(1), pp. 83-116

Hanson, K., Robinson, S. and Schluter, G., 1993. Sectoral Effects of a World Oil Price Shock: Economy Wide Linkages to the Agricultural Sector. Journal of Agricultural and Resource Economics, pp. 96-116

Hantke-Domas, M., 2003. The Public Interest Theory of Regulation: Non-Existence or Misinterpretation? European Journal of Law and Economics, 15(2), pp. 165-194

Hart, C., 2001. Doing a Literature Search: A Comprehensive Guide for the Social Sciences. Sage.

Hassard, J., 1991. Multiple Paradigms and Organizational Analysis: A Case Study. Organization Studies, 12(2), pp. 275-299

Haufler, V., 2010. Disclosure as Governance: The Extractive Industries Transparency Initiative and Resource Management in the Developing World. Global Environmental Politics, 10(3), pp. 53-73

Held, D., 1989. Political Theory and the Modern State: Essays on State, Power and Democracy. Polity Press Cambridge.

Held, V., 1970. The Public Interest and Individual Interests. Basic Books New York.

Holland, L. and Boon Foo, Y., 2003. Differences in Environmental Reporting Practices in the UK and the US: The Legal and Regulatory Context. The British Accounting Review, 35(1), pp. 1-18

Horn, M.J., 1995. The Political Economy of Public Administration: Institutional Choice in the Public Sector. Cambridge University Press.

Horvat, B., Branko; 1982. The Political Economy of Socialism: A Marxist Social Theory. Martin Robertson.

Hossain, S., 2003. Taxation and Pricing of Petroleum Products in Developing Countries: A Framework for Analysis with Application to Nigeria.

House Representative (2012): Report of the Ad-hoc Committee: To verify and determine the actual subsidy requirements and to monitor the implementation of the subsidy regime in Nigeria.

Huntington, S.P., 1952. Marasmus of the ICC: The Commission, the Railroads, and the Public Interest, The. Yale LJ, 61, pp. 467

Hüpkes, E.H., Quintyn, M. and Taylor, M., 2005. The Accountability of Financial Sector Supervisors: Principles and Practice (EPub). International Monetary Fund.

Ifeanyi, I., 2012 Oil Block Scandal: Why DPR Autonomy is Imperative http://www.gamji.com/article6000/NEWS6555.htm. Accessed 12/ 12 2013

IMF (2004): Does Regulatory Governance Matter for Financial System Stability an Empirical Analysis

Imoukhede-led Committee Report, 2012. http://www.vanguardngr.com/2012/07/the-aig-imoukhuede-led-committee-report-on-subsidy-4/ Accessed 24/ 08/ 2013

Ivankova, N.V., Creswell, J.W. and Stick, S.L., 2006. Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. Field Methods, 18(1), pp. 3-20

Iwayemi, A., 2008. Nigeria's Dual Energy Problems: Policy Issues and Challenges. International Association for Energy Economics, pp. 17-21

Jacobs, S., 2004. Governance of Asian Utilities: New Regulators Struggle in Difficult Environments. The governance brief, (10),

Jaidah, H., 1978. Problems and Prospects of State Petroleum Enterprises in OPEC Countries. OPEC Review, 2(2), pp. 1-7

Jalilian, H., Kirkpatrick, C. and Parker, D., 2007. The Impact of Regulation on Economic Growth in Developing Countries: A Cross-Country Analysis. World Development, 35(1), pp. 87-103

Jensen, M.P., 2003. Questionnaire Validation: A Brief Guide for Readers of the Research Literature. The Clinical Journal of Pain, 19(6), pp. 345-352

John W. Creswell, 2009. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage.

Johnson, P.A. and Takeyama, L.N., 2001. Initial Conditions and Economic Growth in the US States. European Economic Review, 45(4), pp. 919-927

Johnson, R.B. and Onwuegbuzie, A.J., 2004. Mixed Methods Research: A Research Paradigm whose Time has Come. Educational researcher, 33(7), pp. 14-26

Johnson, R.B., Onwuegbuzie, A.J. and Turner, L.A., 2007. Toward a definition of mixed methods research. Journal of Mixed Methods Research, 1(2), pp. 112-133

Johnston, R.B., Chai, J. and Schumacher, L., 2000. Assessing Financial System Vulnerabilities. International Monetary Fund.

Jonker, J. and Pennink, B.J.W., 2010. The Essence of Research Methodology: A Concise Guide for Master and PhD Students in Management Science. Springer.

Kahn, A.E., 1988. The Economics of Regulation: Principles and Institutions. The MIT Press.

Kamar, E., 1998. A Regulatory Competition Theory of Indeterminacy in Corporate Law. Columbia Law Review, , pp. 1908-1959

Kaufmann, D. and Kraay, A., 2002. Growth without Governance. World Bank Policy Research Working Paper, (2928),

Kaufmann, D. and Kraay, A., 2003. Governance and Growth: Causality which way?–Evidence for the World, in brief. Manuscript.World Bank publication,

Kaufmann, D., 2000. Measuring Governance, Corruption, and State Capture: How Firms and Bureaucrats Shape the Business Environment in Transition Economies. World Bank Policy Research Working Paper, (2312),

Kaufmann, D., 2002. Public and Private Misgovernance in Finance: Perverse Links, Capture, and their Empirics. Financial Sector Governance: The Roles of the Public and Private Sectors, pp. 81-118

Kaufmann, D., 2002. Rethinking Governance. World Bank Institute, World Bank, Washington, DC,

Kaufmann, D., Kraay, A. and Lobaton, P.Z., 2002. Governance Matters II: Updated Indicators for 2000-01. World Bank-free PDF.

Kaufmann, D., Kraay, A. and Mastruzzi, M., 2004. Governance Matters III: Governance Indicators for 1996, 1998, 2000, and 2002. The World Bank Economic Review, 18(2), pp. 253-287

Kaufmann, D., Kraay, A. and Mastruzzi, M., 2009. Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996-2008. World Bank Policy Research Working Paper, (4978),

Kaufmann, D., Kraay, A. and Mastruzzi, M., 2010. The Worldwide Governance Indicators: Methodology and Analytical Issues. World Bank Policy Research Working Paper, (5430),

Khan, S. (1994): Nigeria: The Political Economy of Oil. Oxford University Press, Oxford

Kirkpatrick, C. and Parker, D., 2004. Regulatory Impact Assessment and Regulatory Governance in Developing Countries. Public Administration and Development, 24(4), pp. 333-344

Kirkpatrick, C., Parker, D. and Zhang, Y., 2004. Regulatory Impact Assessment in Developing and Transition Economies: A Survey of Current Practice. Public Money and Management, 24(5), pp. 291-296

Knight-John, M., 2002. The Institutional Policy Framework for Regulation and Competition in Sri Lanka,

Kuzel, A.J. and Engel, 2001. Some Pragmatic Thoughts about Evaluating Qualitative Health Research. The Nature of Qualitative Evidence, pp. 114-138

Kyari, A.K., 2013. A Theoretical and Empirical Investigation into the Design and Implementation of an Appropriate Tax Regime: An Evaluation of Nigeria's Petroleum Taxation Arrangements.

La Porta, R. et al., 2000. Investor Protection and Corporate Governance. Journal of Financial Economics, 58(1), pp. 3-27

Ladegaard, P., 2005. Improving Business Environments through Regulatory Impact Analysis: Opportunities and Challenges for Developing Countries. International Conference on Reforming the Business Environment," Cairo, November.

Laffont, J. and Tirole, J., 1991. The Politics of Government Decision-Making: A Theory of Regulatory Capture. The Quarterly Journal of Economics, 106(4), pp. 1089-1127

Lahn, G. 2007. Good Governance of the National Petroleum Sector. Chatham House (The Royal Institute of International Affairs) and CEPMLP,

Large, A. and Andrew, D., 2003. Basel II and Systemic Stability. Speech Given at the Barbican Center, 13

Laughlin, R., 1996. Principals and Higher Principals: Accounting for Accountability in the Caring Professions. Accountability: Power, Ethos and the Technologies of Managing, , pp. 225-244

Law of the Federation of Nigeria, 1990 Petroleum act 1969, amended in 1990 and 1998: Legal Framework of the Nigerian Petroleum Industry. Available at http://www.mondaq.com/x/10726/Legal+Framework+Of+The+Nigerian+Petroleum+Industry (accessed 03/ 05/ 2012).

Lawal, L.M., 2008. Decommissioning Accountability 'Expectations Gap': The Perceptions of Stakeholders in Nigerian Oil and Gas Industry,

Leedy, J. E. and Ormrod, P. D. (2005): Practical Research, Planning and Design, 8th Edition,Pearson, Mirrill Prentice Hall.

Leon-Guerrero, A. and Frankfort-Nachmias, C., 2011. Essentials of Social Statistics for a Diverse Society. SAGE.

Levi-Faur, D. and Jordana, J., 2006. Toward a Latin American Regulatory State? The Diffusion of Autonomous Regulatory Agencies Across Countries and Sectors. Intl Journal of Public Administration, 29(4-6), pp. 335-366

Levine, M.E. and Forrence, J.L., 1990. Regulatory Capture, Public Interest, and the Public Agenda: Toward a Synthesis. Journal of Law, Economics, & Organization, 6, pp. 167-198

Levine, P., Stern, J. and Trillas, F., 2005. Utility Price Regulation and Time Inconsistency: Comparisons with Monetary Policy. Oxford Economic Papers, 57(3), pp. 447-478

Levy, B. and Spiller, P.T., 1994. Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation, The. JL Econ.& Org., 10, pp. 201

Levy, B. and Spiller, P.T., 1996. A Framework for Resolving the Regulatory Problem. Regulations, Institutions and Commitment, pp. 1-36

Levy, B. and Spiller, P.T., 1996. Regulations, Institutions, and Commitment: Comparative Studies of Telecommunications. Cambridge University Press.

Lindorff, M., 2007. The Ethical Impact of Business and Organisational Research: the Forgotten Methodological Issue? Electronic Journal of Business Research Methods, 5(1), pp. 21-28

Litan, R.E., Pomerleano, M. and Sundararajan, V., 2002. Financial Sector Governance: The Roles of the Public and Private Sectors. Brookings Institution Press.

Lodge, M. and Wegrich, K., 2009. High-Quality Regulation: Its Popularity, its Tools and its Future. Public Money & Management, 29(3), pp. 145-152

Mackenzie, N. and Knipe, S., 2006. Research Dilemmas: Paradigms, Methods and Methodology. Issues in Educational Research, 16(2), pp. 193-205

Majone, G., 1991. Cross-National Sources of Regulatory Policymaking in Europe and the United States. Journal of public policy, 11(01), pp. 79-106

Majone, G., 1997. From the Positive to the Regulatory State: Causes and Consequences of Changes in the Mode of Governance. Journal of Public Policy, pp. 139-167

Makwe, I., 2006. A Critique of the Nigerian Petroleum Products Pricing Regulatory Agency (PPPRA) Pricing Template and Cost Recovery Analysis. Oil, Gas & Energy Law Journal (OGEL), 4(3),

Malyshev, N., 2006. Regulatory Policy: OECD Experience and Evidence. Oxford Review of Economic Policy, 22(2), pp. 274-299

Manby, B., 1999. The Price of Oil: Corporate Responsibility and Human Rights Violations in Nigeria's Oil Producing Communities. Human Rights Watch.

Marshall, M.N., 1996. Sampling for Qualitative Research. Family Practice, 13(6), pp. 522-526

Masciandaro, D., Quintyn, M. and Taylor, M.W., 2008. Financial Supervisory Independence and Accountability [Electronic Resource]: Exploring the Determinants. International Monetary Fund.

Masciandaro, D., Quintyn, M. and Taylor, M.W., 2008. Inside and Outside the Central Bank: Independence and Accountability in Financial Supervision: Trends and Determinants. European Journal of Political Economy, 24(4), pp. 833-848

Maxwell, J.W., Lyon, T.P. and Hackett, S.C., 2000. Self-Regulation and Social Welfare: The Political Economy of Corporate Environmentalism. The Journal of Law and Economics, 43(2), pp. 583-618

McCabe, M. and Nowak, M., 2008. The Independent Director on the Board of Company Directors. Managerial Auditing Journal, 23(6), pp. 545-566.

McChesney, F.S. and Shughart, W.F., 1995. The Causes and Consequences of Antitrust: The Public-Choice Perspective. University of Chicago Press.

McMahon, G. (2002), Regulatory Capture: Causes and Effects, Paper delivered at the International Institute for Public Ethics Biennial Conference 2002 held at Brisbane, Australia, October 4-7, 2002

McPherson, C., 2003. National Oil Companies: Evolution, Issues, Outlook. Fiscal Policy Formulation and Implementation in Oil-Producing Countries, pp. 184-203

Meekers, D., 1994. Combining Ethnographic and Survey Methods: A Study of the Nuptiality Patterns of the Shona of Zimbabwe. Journal of Comparative Family Studies, 25(3), pp. 313-328

Miles, M.B, and Huberman, A.M. (1994): *Qualitative Data Analysis*, 2nd Ed., p. 10-12. Newbury Park, CA: Sage

Mitnick, B.M., 1980. The Political Economy of Regulation: Creating, Designing, and Removing Regulatory Forms. Columbia University Press New York.

Mmadu, B.A. and Akan, D.C., 2013. Inefficient Subsidy in Nigerian oil sector; Implications for Revenue Generation and Household Welfare in Nigeria. International Journal of Revenue Management, 7(1), pp. 75-90

Morse, J.M., 1991. Approaches to Qualitative-Quantitative Methodological Triangulation. Nursing Research, 40(2), pp. 120-123

NEITI, 2011. Report to the National Stakeholder Working Group of Nigeria Extractive Industries Transparency Initiative.

Neumayer, E., 2002. Is Good Governance Rewarded? A Cross-National Analysis of Debt Forgiveness. World Development, 30(6), pp. 913-930

Ng, Y., 1985. Some Fundamental Issues in Social Welfare. Issues in Contemporary Microeconomics and welfare. Macmillan, London,

Nicoletti, G. and Scarpetta, S., 2003. Regulation, Productivity and Growth: OECD Evidence. Economic Policy, 18(36), pp. 9-72

NNPC (2009): Crude Oil Production by Company, Crude Stream: January – December, 2009. Annual Statistical Bulletin

NNPC http://www.nnpcgroup.com/ accessed 30/ 12/ 2013

Noll, R.G., 1989. Economic Perspectives on the Politics of Regulation. Handbook of Industrial Organization, 2, pp. 1253-1287

Norton, J.C. and Rowe, D.A., 1978. Accounting and Auditing Guide for United Kingdom Oil and Gas Exploration and Production. Institute of Chartered Accountants in England and Wales London.

Nuhu Ribadu., 2012. Report of the Petroleum Revenue Special Task Force http://www.premiumtimesng.com/business/105349-ribadu-commitee-exposes-how-presidency-nnpc-spend-oil-revenues-as-slush-funds.html (accessed 07/01/13)

Nuhu-Koko, A., 2008. Fuel Subsidy Scandal and the Impending Fuel Subsidy Removal. Nigeria Energy Intelligence, 10

Nwachukwu, M.U. and Edikpa, C., 2009. The Impact of Deregulation on Petroleum Products Supply in Nigeria. The Nigerian Journal of Development Studies, 7(1), pp. 151

Nwokeji, G.U., 2007. The Nigerian National Petroleum Corporation and the Development of the Nigerian Oil and Gas Industry: History, Strategies and Current Directions. James A. Baker III Institute for Public Policy, Rice University.

Odulari, O., 2008. Crude Oil and the Nigerian Economic Performance. Oil and Gas Business,

OECD, 1999. *Regulatory Reform in Mexico, Background Report on Government Capacities to Assure High Quality Regulation*, Paris, OECD.

OECD, 2000. Regulatory Reform in Korea, Background Report on Government Capacities to Assure High Quality Regulation, Paris, OECD.

OECD, 2001. 'Improving Policy Instruments through Impact Assessment', *SIGMA Paper* No. 31, Paris, OECD.

OECD, 2002. *Regulatory Policies in OECD Countries: From Interventionism to Regulatory Governance*, Paris, and OECD.

OECD, 2005. Guiding Principles for Regulatory Quality and Performance. OECD 1997 to 2005 the evaluation of Regulatory Policy.

OECD, 2007. 'Regulatory Management Capacities of Member States of the EU that Joined the Union on 1 May 2004', *SIGMA Paper* No. 42, Paris, OECD.

Ogri, O.R., 2001. A Review of the Nigerian Petroleum Industry and the Associated Environmental Problems. Environmentalist, 21(1), pp. 11-21

Ogunleye, E.K., 2008. Natural Resource Abundance in Nigeria: From Dependence to Development. Resources Policy, 33(3), pp. 168-174

Ogus, A.I., 1994. Regulation: Legal Form and Economic Theory. Clarendon Press Oxford.

Ogwumike, F.O. and Ogunleye, E.K., 2008. Resource-led Development: An Illustrative Example from Nigeria. African Development Review, 20(2), pp. 200-220

Okafor, E.E., 2007a. Rethinking African Development: A Critical Overview of Recent Developments in the Petroleum Sub-Sector in Nigeria. J.Soc.Sci, 15(1), pp. 83-93

Okafor, E.E., 2007b. Globalisation, Casualisation and Capitalist Business Ethics: A Critical Overview of Situation in the Oil and Gas Sector in Nigeria. Journal of Social Science, 15(2), pp. 169-179

Okeahalam, C.C. and Akinboade, O.A., 2003. A Review of Corporate Governance in Africa: Literature, Issues and Challenges. Global Corporate Governance Forum, Washington, DC.

Okolo, P. and Etekpe, A., 2010. Oil Pipeline Vandalisation and the Socio-Economic Effects in Nigeria's Niger Delta Region. Available at SSRN 1723169,

Okonjo-Iweala, N. and Osafo-Kwaako, P., 2007. Nigeria's Economic Reforms: PROGRESS and Challenges. Brookings Global Economy and Development Working Paper No.6,

Okpaga, A., Ugwu, S.C. and EME, O.I., (2012): Deregulation and Anti-Subsidy Removal Strikes in Nigeria.

Okpanachi, E., 2011. Confronting the Governance Challenges of Developing Nigeria's Extractive Industry: Policy and Performance in the Oil and Gas Sector1. Review of Policy Research, 28(1), pp. 25-47

Olson, M., Sarna, N. and Swamy, A., 1998. Governance and Growth: A Simple Hypothesis Explaining Cross-Country Differences in Productivity. Centre for Institutional Reform and Informal Sector (IRIS), University of Maryland, Mimeo,

Olusegun, G. O.; (2008 p.9) Crude Oil and the Nigerian Economic Performance: Oil and Gas Business, *Department of Economics and Development Studies, College of Business and Social Sciences, Covenant University, Ogun State, Nigeria*

Oman, C., (2001): "Corporate Governance and National Development." Technical Paper Number 180. OECD Development Centre. Paris.

Onuoha, F.C., 2008. Petroleum Product-Induced Disasters and Human Security: An Enquiry into the Causes and Effects of the Kerosene Explosions in the Rivers and Delta States of Nigeria. Journal of Human Security, 4(2), pp. 19

Onyishi, A.O., Eme, O.I. and Emeh, I.E.J., 2012. The Domestic and International Implications of Fuel Subsidy Removal Crisis in Nigeria. Kuwait Chapter of Arabian Journal of Business and Management Review, 1(6), pp. 57-80

Oseni, M., 2013. Fuel Costing in Nigeria: The Need for Interrelated Party Transactions Pricing Method. Journal of African Macroeconomic Review Vol, 3(1),

Oyekunle, A., 2011. Impact of the Petroleum Industry Bill on Deepwater Economics. Nigeria Annual International Conference and Exhibition.

Oyovbaire, S.E., 2007. The Crisis of Governance in Nigeria. Text of the Convocation Lecture Delivered on Thursday, 15th March, University of Port Harcourt, Port Harcourt, Nigeria,

Pallant, J., 2010. SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS. Open University Press.

Parahoo, K. (2006): Nursing Research: Principles, Processes and Issues. (2nd Edition). Macmillan, Basingstoke.

Parker, D. and Kirkpatrick, C., 2007. 9. Regulatory Impact Assessment in Developing Countries. Regulatory Impact Assessment: Towards Better Regulation? pp. 171

Parker, D., 1999. Regulation of Privatised Public Utilities in the UK: Performance and Governance. International Journal of Public Sector Management, 12(3), pp. 213-236

Parker, D., 2002. Economic Regulation: A Review of Issues. Annals of Public and Cooperative Economics, 73(4), pp. 493-519

Patton, M.Q., 2002. Two Decades of Developments in Qualitative Inquiry A Personal, Experiential Perspective. Qualitative Social Work, 1(3), pp. 261-283

Pelkmans, J., Labory, S. and Majone, G., 2000. 12. Better EU Regulatory Quality: Assessing Current Initiatives and New Proposals. Regulatory Reform and Competitiveness in Europe, I: Horizontal Issues, 1, pp. 461

Peltzman, S., Levine, M.E. and Noll, R.G., 1989. The Economic Theory of Regulation After a Decade of Deregulation. Brookings Papers on Economic Activity. Microeconomics, 1989, pp. 1-59

Petroleum Act Chapter P10 1990. Laws of the Federation of Nigeria http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0CCwQFjAA&url=http%3A%2F%2Fwww1.chr.up.ac.za%2Fchr_old%2Findigenous%2Fdocuments%2FNigeria%2FLegislation%2FPetroleum%2520Act.doc&ei=CkE0UjrMcWS0QWNj4GABw&usg=AFQjCNHGFokH7-k4sC_gsByF1knQ3UYDkA Accessed 14/ 06/ 2012

Petroleum Equalisation Fund (PEF)., 2012. Service Delivery Charter. Available at http://www.pefmb.gov.ng/ (accessed 23/04/ 2013)

Pipelines and Product Marketing Company (PPMC), 2013. http://ppmc.nnpcgroup.com/. Accessed 15/ 07/2013

Posner, R.A., 1971. Taxation by Regulation. The Bell Journal of Economics and Management Science, pp. 22-50

PPPRA (2012): Revised Guidelines for the Administration of Petroleum Support fund (PSF)

Premium times, 2012. Full report of the House fuel subsidy probe: http://www.premiumtimesng.com/news/4747premium_times_presents_the_full_oil_subsidy_probe_report.html Accessed November 22,2012

Punch News Paper, 2012. HTTP://WWW.PUNCHNG.COM/FLASHBACK/2012/10/12/. Accessed 12/10/2012

Quintyn, M. and Kyprou, K.T., 2007. Governance of Financial Supervisors and Its Effects: A Stocktaking Exercise. SUERF.

Quintyn, M. and Taylor, M., 2007. Robust Regulators and their Political Masters: Independence and Accountability in Theory. Designing Financial Supervision Institutions: Independence, Accountability and Governance,

Quintyn, M. and Taylor, M.W., 2003. Regulatory and Supervisory Independence and Financial Stability. CESifo Economic Studies, 49(2), pp. 259-294

Rafael La Portaet. al., (2000): Investor protection and corporate governance Journal of Financial Economics 58 (2000) 3}27

Raymond, M.R., 1986. Missing Data in Evaluation Research. Evaluation & the Health Professions, 9(4), pp. 395-420

Reed, D., 2002. Corporate Governance Reforms in Developing Countries. Journal of Business Ethics, 37(3), pp. 223-247

Resnik, D.B., 2010. What is Ethics in Research & Why is it Important. Research Triangle Park, North Carolina: National Institute of Environmental Health Sciences/National Institute of Health,

Ribstein, L.E., 2002. Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002. J.Corp.L., 28, pp. 1

Rigobon, R. and Rodrik, D., 2005. Rule of law, Democracy, Openness, and Income. Economics of Transition, 13(3), pp. 533-564

Roberts, J. and Scapens, R., 1985. Accounting Systems and Systems of Accountability—Understanding Accounting Practices in their Organisational Contexts. Accounting, Organizations and Society, 10(4), pp. 443-456

Roberts, N., 1999. The 1999 Constitution of the Federal Republic of Nigeria: Implications for Intergovernmental Relations. Issues in the Review of the 1999 Constitution of the Federal Republic of Nigeria. Nigerian Institute of Social Economic Research, Ibadan, , pp. 56-72

Ross, M.L., 2003. Nigeria's Oil Sector and the Poor. Position Paper for DFID-Nigeria, UCLA, Los Angeles,

Rossi, M., 1999. Financial Fragility and Economic Performance in Developing Economies-Do Capital Controls Prudential Regulation and Supervision Matter? International Monetary Fund.

Rotimi, O. and Abdul-Azeez, A.A., 2013. Revenue Generation and Transparency in Nigeria Oil and Gas Industry: [Position of Nigeria Extractive Industries Transparency Initiative (Neiti)]. Research Journal of Finance and Accounting, 4(6), pp. 99-114

Ryan, B., Scapens, R.W. and Theobald, M., 2002. Research Method and Methodology in Finance and Accounting.

Sanusi, S.L., 2010. Growth Prospects for the Nigerian economy. Convocation Lecture Delivered at the Igbinedion University Eighth Convocation Ceremony, Okada, Edo State, Nigeria,

Sarantakos, S., 1998. Working with Social Research. Palgrave Macmillan.

Saunders, M., Lewis, P. and Thornhill, A., 2009. Research Methods for Business Students 4th edition Pearson education limited.

Schinasi, and Garry, 2003. Responsibility of Central Banks for Stability in Financial Markets. International Monetary Fund.

Schwella, E., 2002. Regulation and Competition in South Africa.

Schwert, G.W., 1981. Using Financial Data to Measure Effects of Regulation. Journal of Law and Economics, 24(1), pp. 121-158

Sekaran, U. (2001): Research Methods for Business: A Skills Building Approach. John Wiley and Sons Inc., New York

Sekaran, U., 2006. Research Methods for Business: A Skill Building Approach. Wiley. com.

Shaxson, N., 2009. Nigeria's Extractive Industries Transparency Initiative. Just a Glorious Audit,

SheilaK.; 2009. Qualitative Research: Good Decision Making Through Understanding People, Cultures and Markets Published my Replika Press Pvt Ltd

Shleifer, A., 2005. Understanding Regulation. European Financial Management, 11(4), pp. 439-451

Somekh, B. and Lewin, C., 2005. Research Methods in the Social Sciences. Sage.

Soreide, T., 2011. Political Economy of the Petroleum Sector in Nigeria.

Spiller, P.T., 1990. Politicians, Interest Groups, and Regulators: A Multiple-Principals Agency Theory of Regulation, or" Let Them Be Bribed". Journal of Law and Economics, 33(1), pp. 65-101

Stephens, D., 2009. Qualitative Research in International Settings: A Practical Guide. Routledge, USA.

Stern, J. and Cubbin, J., 2005. Regulatory effectiveness: The impact of regulation and regulatory governance arrangements on electricity industry outcomes. World Bank-free PDF.

Stern, J. and Holder, S., 1999. Regulatory Governance: Criteria for Assessing the Performance of Regulatory Systems: An Application to Infrastructure Industries in the Developing Countries of Asia. Utilities Policy, 8(1), pp. 33-50

Stern, J., 2000. Electricity and Telecommunications Regulatory Institutions in Small and Developing Countries. Utilities Policy, 9(3), pp. 131-157

Stevens, P., 2008. National Oil Companies and International Oil Companies in the Middle East: Under the Shadow of Government and the Resource Nationalism Cycle. The Journal of World Energy Law & Business, 1(1), pp. 5-30

Stigler, (1971). The Theory of Economic Regulation: The Bell Journal of Economics and Management Science Vol. 2, No. 1 (Spring, 1971), pp. 3-21: Published by Rand Corporation

Stiglitz, J., 1998. Distinguished Lecture on Economics in Government: The Private Uses of Public Interests: Incentives and Institutions. The Journal of Economic Perspectives, 12(2), pp. 3-22

Stiglitz, J.E., 1998. Knowledge for Development: Economic Science, Economic Policy, and Economic Advice. Annual World Bank Conference on Development Economics. Washington: World Bank. pp. 21

Strobl, J., Cave, E. and Walley, T., 2000. Data Protection Legislation: Interpretation and Barriers to Research. BMJ: British Medical Journal, 321(7265), pp. 890

Sundararajan, V. and Udaibir, S., Das, and Plamen Yossifov, 2003," Cross-Country and Cross-Sector Analysis of Transparency of Monetary and Financial Policies,"

Swaroop, V. and Rajkumar, A.S., 2002. Public Spending and Outcomes: Does Governance Matter? Research Working papers, 1(1), pp. 1-30

Tanko, A., 2011. An Analysis of the Efficacy of Fiscal Laws Relating to Petroleum Operations in Nigeria,

Tashakkori, A. and Creswell, J.W., 2007. Editorial: The New Era of Mixed Methods. Journal of Mixed Methods Research, 1(1), pp. 3-7

Tashakkori, A. and Teddlie, C., 2003. Mixed Methodology: Combining Qualitative and Quantitative Approaches. SAGE Publications, Incorporated.

Teddlie, C. and Tashakkori, A., 2006. A General Typology of Research Designs Featuring Mixed Methods. Research in the Schools, 13(1), pp. 12-28

Temple, J. and Johnson, P.A., 1998. Social Capability and Economic Growth. The Quarterly Journal of Economics, 113(3), pp. 965-990

Thisday Newspaper, 2010. http://www.thisdaylive.com/articles/-indigenous-oil-firms-production-is-1-of-industry-/72076/ accessed 21/04/2011

Tordo, S., Tracy, B.S. and Arfaa, N., 2011. National Oil Companies and Value Creation. World Bank-free PDF.

Toumanoff, P.G., 1984. A Positive Analysis of the Theory of Market Failure. Kyklos, 37(4), pp. 529-541

Tower, G., 1993. A Public Accountability Model of Accounting Regulation. The British Accounting Review, 25(1), pp. 61-85

Trochim, W.M., 2006. Qualitative Measures. Research Measures Knowledge Base, pp. 361-9433

UK's House of Lord's committee on constitution; (2004). The Regulatory State: Ensuring its Accountability 6th Report of Session 2003-04 Published by the Authority of the House of Lords London

Van Den Bergh, R. and Faure, M., 1991. Self-Regulation of the Professions in Belgium. International Review of Law and Economics, 11(2), pp. 165-182

Van Teijlingen, E. and Hundley, V., 2001. The Importance of Pilot Studies. Social Research Update, (35), pp. 1-4

Vangard News Paper (2012): http://www.vanguardngr.com/articles/2002/nationalx/nr611112006.html accessed 13 October, 2013.

Vogelsang, I., 2002. Incentive Regulation and Competition in Public Utility Markets: A 20-Year Perspective. Journal of Regulatory Economics, 22(1), pp. 5-27

Vogelsang, I., 2003. Price Regulation of Access to Telecommunications Networks. Journal of Economic Literature, 41(3), pp. 830-862

Wahyuni, D., 2012. The Research Design Maze: Understanding Paradigms, Cases, Methods and Methodologies. Journal of Applied Management Accounting Research, 10(1), pp. 69-80

White, O.F., 1983. Improving the Prospects for Heterodoxy in Organization Theory a Review of Sociological Paradigms and Organisational Analysis by Gibson Burrell and Gareth Morgan. Administration & Society, 15(2), pp. 257-272

Williams, A. (2003): How to..... Write and analyse a questionnaire. Journal of Orthodontics, Vol. 30, No. 3

Wilson, I.H., 1974. Socio-Political Forecasting: A New Dimension to Strategic Planning. Michigan Business Review, 26(4), pp. 15-25

Winston, C., 1998. US Industry Adjustment to Economic Deregulation. The Journal of Economic Perspectives, 12(3), pp. 89-110

Wittman, D.A., 1995. The Myth of Democratic Failure: Why Political Institutions are Efficient. University of Chicago Press.

World Bank, 2002. "World Development Indicators." Available via Internet at: http://www.worldbank.org/data/wdi2001/index.htm . (accessed 19/07/2012)

World Bank, 2003. Doing Business in 2004: Understanding Regulation. World Bank Group.

World Bank, Campbell, O. and Bhatia, A., 1998. Privatization in Africa. World Bank Washington, DC.

Yakasai, A.G., 2001. Corporate Governance in a Third World Country with Particular Reference to Nigeria. Corporate Governance: An International Review, 9(3), pp. 238-253

Yossifov, P., Das, U.S. and Sundararajan, V., 2003. Cross-Country and Cross-Sector Analysis of Transparency of Monetary and Financial Policies. International Monetary Fund.

Zerbe JR, R.O. and McCurdy, H., 2000. End of Market Failure, The. Regulation, 23, pp. 10

Zerbe, R.O. and Urban, N., 1988. Including the Public Interest in Theories of Regulation. Research in Law and Economics, 11, pp. 1-23

Zhang, Y. and Thomas, M., 2009. Regulatory Reform and Governance: A Survey of Selected Developing and Transition Economies. Public Administration and Development, 29(4), pp. 330-339

Zhang, Y., 2010. Towards Better Regulatory Governance? Regulatory Reform in Selected Developing Countries, 2003–7. Public Management Review, 12(6), pp. 873-891

Zhang, Y., Parker, D. and Kirkpatrick, C., 2005. Competition, Regulation and Privatisation of Electricity Generation in Developing Countries: Does the Sequencing of the Reforms Matter? The Quarterly Review of Economics and Finance, 45(2), pp. 358-379

Appendix 1

August, 2012

.....

.....

Dear Sir/Madam,

Introduction to Ghali Mustapha

My name is Professor Alex Russell. I am Head of the Department of Management at Robert Gordon University and a professor of petroleum accounting. I very much hope that you can assist with a research project that my excellent research student, Ghali Mustapha, is undertaking. We are aware of your expertise in the research areas under investigation and your input will be invaluable to us.

Please find attached a letter to you from Mr Mustapha.

Yours sincerely

Alex Russell

Professor of Petroleum Accounting
Head of Department of Management
Aberdeen Business School
Chair of the Oil Industry Finance Association

August, 2012

.....

.....

Dear Sir/Madam,

I am a research scholar based in Robert Gordon University, Aberdeen, United Kingdom. My research interest and speciality is governance practices in the downstream petroleum sector. I am particularly interested in regulatory governance issues related to Nigerian Downstream Petroleum Sector. I attach a questionnaire relating to the Nigerian Downstream Regulatory Governance Practice.

I would be very grateful if you can complete the questionnaire so that we can have the benefit of your expertise. Please, be assured that your responses will be treated in strict confidence and that your identity will not be revealed at any time. I am happy to let you have a summary of my findings in due course, should you request one. Information on completing the questionnaire can be found at the beginning of each section.

I would be glad to be contacted any time about the survey or procedures on: +44(0) 7424425057. Alternatively by email at: g.t.mustapha@rgu.ac.uk

Many thanks for your time and cooperation

Yours sincerely,

Ghali M. Tijjani

Ghali Mustapha

SECTION ONE

Survey on Certain Aspects of Regulatory Governance Practices in the Nigerian Downstream Petroleum Sector.

Please tick the box that best represents your organisation.

1	Department of Petroleum Resources	
2	Petroleum Equalisation Fund	
3	Petroleum Product Pricing Regulatory Agency	
4	Pipeline and Product Marketing Company	
5	Nigerian Extractive Industry Transparency Initiative	
6	National Assembly	
7	Major Oil Marketing Companies	
8	Independent Oil Marketing Companies	
9	Civil Society	
10	Trade Union	

SECTION TWO

This section relates to the regulatory governance practices of the Department of Petroleum Resources (DPR)

1. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to DPR's independence in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Department of Petroleum Resources has financial autonomy to determine its own budgets.					
b) The Department of Petroleum Resources is free to make independent decisions relating to regulation of the downstream petroleum sector.					
c) The Department of Petroleum Resources effectively reprimands regulated companies that do not adhere to regulations.					
d) The Department of Petroleum Resource's regulatory decisions are only overruled by a court of jurisdiction or pre-established appellate panel.					
e) The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel.					

2. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to DPR's accountability in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) Guidelines to obtain import permits are clearly stated and publicised by the Department of Petroleum Resources.					
b) The Department of Petroleum Resources follows due process in the issuance of import licenses to regulated companies.					
c) The Department of Petroleum Resources discloses to the general public information relating to the issuance of import licenses.					
d) The Department of Petroleum Resources discloses to the National Assembly information relating to the issuance of import licenses.					
e) The Department of Petroleum Resources discloses to the general public the actual quantity of imported petroleum products.					
f) The Department of Petroleum Resources discloses all discovered malpractices relating to importation of petroleum products.					
g) The Department of Petroleum Resources publically discloses actual petroleum products refined locally.					
h) The Department of Petroleum Resources discloses in total all revenue it generates annually.					

3. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to DPR's transparency in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Department of Petroleum Resources consults all legitimate stakeholders in major regulatory decisions.					
b) The methods used for measurement of petroleum products by the Department of Petroleum Resources are transparent.					
c) The methods used for issuance of import licenses to regulated companies by the Department of Petroleum Resources are transparent.					
d) The methods used in monitoring the actual quantity of imported petroleum products by the Department of Petroleum Resources are transparent					
e) When the Department of Petroleum Resources refrains from disclosing information because it is confidential the rationale for that confidentiality is explained and justified.					

4. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to DPR's expertise in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Department of Petroleum Resources has the capacity to regulate the downstream petroleum sector.					
b) The Department of Petroleum Resources deploys skilled personnel to conduct its downstream regulatory functions.					
c) Staff from the Department of Petroleum Resources receive necessary training to ensure setting of quality regulations in the downstream sector.					
d) The Department of Petroleum Resources is effective in setting in place a framework for regulatory governance.					
e) The appointment of executive management of the Department of Petroleum Resources is primarily based on merit.					
f) The personnel of the department of petroleum resources discharge their regulatory duties in a professional manner.					

If you have any additional comment, please write it in the space provided below: ……
……

SECTION THREE

This section relates to the regulatory governance practices of the Petroleum Products Pricing Regulatory Agency (PPPRA)

1. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PPPRA's independence in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Petroleum Products Pricing Regulatory Agency has financial autonomy to determine its own budgets.					
b) The Petroleum Products Pricing Regulatory Agency is free to make independent decisions relating to pricing of petroleum products in the downstream sector.					
c) The Petroleum Products Pricing Regulatory Agency effectively reprimands regulated companies that do not adhere to pricing regulations.					
d) The Petroleum Products Pricing Regulatory Agency regulatory decisions are only overruled by a court of jurisdiction or pre-established appellate panel.					
e) The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel.					

2. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PPPRA's accountability in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) Guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency.					
b) The Petroleum Products Pricing Regulatory Agency follows due process to determine the actual price of petroleum products.					
c) The Petroleum Products Pricing Regulatory Agency discloses to the general public all important information relating to pricing of petroleum products.					
d) The Petroleum Products Pricing Regulatory Agency discloses to the National Assembly all important information relating to pricing of petroleum products.					
e) The Petroleum Products Pricing Regulatory Agency audits all claims for subsidies relating to petroleum products.					
f) The Petroleum Products Pricing Regulatory Agency follows due process relating to payment of subsidies.					
g) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to pricing of petroleum products.					
h) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims of petroleum products.					
i) The Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders.					

3. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PPPRA's transparency in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Petroleum Products Pricing Regulatory Agency consults all legitimate stakeholders in major regulatory decisions.					
b) The methods used in reviewing the price of petroleum products by the Petroleum Products Pricing Regulatory Agency are transparent.					
c) The methods used in determining the actual price of petroleum products by the Petroleum Products Pricing Regulatory Agency are transparent.					
d) When the Petroleum Products Pricing Regulatory Agency refrains from disclosing information because it is confidential the rationale for that confidentiality is explained and justified.					

4. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PPPRA's expertise in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Petroleum Products Pricing Regulatory Agency has the capacity to regulate the price of petroleum products.					
b) The Petroleum Products Pricing Regulatory Agency deploys skilled personnel to conduct its regulatory functions relating to pricing of petroleum products.					
c) Staff from the Petroleum Products Pricing Regulatory Agency receive the necessary training to ensure the setting of high quality regulations relating to pricing of petroleum products.					
d) The Petroleum Products Pricing Regulatory Agency is effective in setting in place a framework for regulatory governance.					
e) The appointment of executive management of the Petroleum Products Pricing Regulatory Agency is primarily based on merit.					
f) The personnel of the Petroleum Products Pricing Regulatory Agency discharge their regulatory duties in a professional manner.					

If you have any additional comment, please write it in the space provided below: ……
…….

SECTION FOUR

This section relates to the regulatory governance practices of the Petroleum Equalisation Fund (PEF)

1. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PEF's independence in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Petroleum Equalisation Fund has financial autonomy to determine its own budgets.					
b) The Petroleum Equalisation Fund is free to make independent decisions relating to price equalisation in the downstream petroleum sector.					
c) The Petroleum Equalisation Fund effectively reprimands regulated companies that do not adhere to price equalisation policy.					
d) The Petroleum Equalisation Fund regulatory decisions are only overruled by a court of jurisdiction or pre-established appellate panel.					
e) The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel.					

2. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PEF's accountability in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) Guidelines to equalize the price of petroleum products are clearly stated and publicised by Petroleum Equalisation fund.					
b) The Petroleum Equalisation fund follows due process in equalizing the price of petroleum products in the country.					
c) The Petroleum Equalisation Fund follows due process in determining actual bridging costs.					
d) The Petroleum Equalisation Fund discloses to the general public important information relating to price equalisation.					
e) The Petroleum Equalisation Fund discloses to the National Assembly information relating to price equalisation.					
f) The Petroleum Equalisation Fund audits all bridging claims relating to the transportation of petroleum products.					
g) The Petroleum Equalisation Fund follows due process relating to payment of bridging.					
h) The Petroleum Equalisation Fund discloses all significant discovered malpractices relating to bridging.					
i) The Petroleum Equalisation Fund discloses in total all revenue it generates relating to the registration of transporters.					

3. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PEF's transparency in the conduct of its regulatory factions of the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statement	1	2	3	4	5
a) The Petroleum Equalisation Fund consults all legitimate stakeholders in major decisions relating to price equalisation.					
b) The methods used in determining the actual cost of bridging the petroleum products by the Petroleum Equalisation Fund are transparent.					
c) When the Petroleum Equalisation Fund refrains from disclosing information because it is confidential the rationale for that confidentiality is explained and justified.					

4. Please indicate your opinion by ticking the appropriate box for each of the following statements relating to PEF's expertise in the conduct of its regulatory functions with respect to the downstream petroleum sector.

(1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree)

Statements	1	2	3	4	5
a) The Petroleum Equalisation Fund has the capacity to determine the actual bridging costs in the country.					
b) The Petroleum Equalisation Fund deploys skilled personnel to conduct its regulatory functions relating to price equalisation of petroleum products.					
c) Staff from the Petroleum Equalisation Fund receive the necessary training to ensure setting of high quality regulations relating to price equalisation of petroleum products.					
d) The Petroleum Equalisation Fund is effective in setting in place a framework for regulatory governance.					
e) The appointment of executive management of the Petroleum Equalisation Fund is primarily based on merit.					
f) The personnel of the Petroleum Equalisation Fund discharge their regulatory duties in a professional manner.					

If you have any additional comment, please write it in the space provided below: ……
……

Thank you very much for your time and interest.

Appendix 2

Follow up Interview questions

(1) *From the analysis of the responses to the questionnaire it appears that experts believe that there are issues that have affected the independence of the Nigerian downstream regulators. Do you share this view? If so, can you please comment on the factors that have affected, or might have affected the freedom of the regulators to act in an independent manner?*

(2) *From the questionnaire findings, it appears that experts believe that there are issues that have affected the accountability of the Nigerian downstream regulators. Do you share this view? If so, can you please comment on the factors that have affected, or might have affected the accountability practice of the Nigerian Downstream regulatory agencies?*

(3) *Given the responses from the questionnaire the perceptions of the experts in relation to the transparency practice of the Nigerian downstream regulatory agencies is not as expected. Can you please suggest the ways in which those perceptions can be overcome?*

(4) *Despite a perception amongst the experts that the Nigerian downstream regulatory agencies have skills to regulate the sector effectively. These same experts believe the skills are not being fully utilised. Why might this be the case and how can it be remedied?*

(5) *From the findings of the questionnaire, it appears that the perception of respondents from Nigerian Extractive Industry Transparency Initiative (NEITI), Civil Society (CS) and Trade Union (TU) were materially different from that of Department of Petroleum Resource (DPR) and Petroleum Products Pricing Regulatory Agency (PPPRA) in relation to accountability and transparency practices of the Nigerian downstream regulatory agencies? Why would these experts have this different view?*

(6) *Do you agree that the performance of the Nigerian downstream regulatory agencies assist the ability of the government to meet its societal aims and objectives?*

(7) *What steps should be taken to enhance the performance of the Nigerian downstream regulatory agencies?*

Appendix 3A, 3B and 3C below presented the Mann-Whitney results in relation to the first hypothesis.

Appendix 3A

f) The Department of Petroleum Resources has financial autonomy to determine its own budgets.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	.023	.028	*	*	.001	.001
P_3	*	*	*	**n/a**	.030	.021	*	*	.019	.022
N_1	*	*	.023	.030	**n/a**	***	*	.015	*	*
N_2	*	*	.028	.021	*	**n/a**	*	.025	*	*
M_1	*	*	*	*	*	*	**n/a**	*	.025	.041
I_1	*	*	*	*	.015	.025	*	**n/a**	.002	.001
C_1	*	*	.001	.019	*	*	.025	.002	**n/a**	*
T_1	*	*	.001	.022	*	*	.041	.001	*	**n/a**

g) The Department of Petroleum Resources is free to make independent decisions relating to the regulations of the downstream petroleum sector.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	.011	.007	*	*	*	.030	*	*
P_2	*	.011	**n/a**	*	*	.020	*	*	.024	.011
P_3	*	.007	*	**n/a**	*	.014	*	*	.027	.008
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	.020	.014	*	**n/a**	*	.046	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	.030	*	*	*	.046	*	**n/a**	.048	.028
C_1	*	*	.024	.027	*	*	*	.048	**n/a**	*
T_1	*	*	.011	.008	*	*	*	.028	*	**n/a**

h) Department of Petroleum Resources effectively reprimands regulated companies that do not adhere to regulations.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.003	*	*	.003	.008	*	*	.005	.008
P_1	.003	**n/a**	.000	.038	*	*	.032	.035	*	*
P_2	*	.000	**n/a**	*	.000	.001	*	*	.000	.000
P_3	*	.038	*	**n/a**	.030	*	*	*	.023	.042
N_1	.003	*	.000	.030	**n/a**	*	.034	*	*	*
N_2	.008	*	.001	*	*	**n/a**	*	*	*	*
M_1	*	.032	*	*	.034	*	**n/a**	*	.035	*
I_1	*	.035	*	*	*	*	*	**n/a**	.038	*
C_1	.005	*	.000	.023	*	*	.035	.038	**n/a**	*
T_1	.008	*	.000	.042	*	*	*	*	*	**n/a**

i) The Department of Petroleum Resources' regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	.018	.033	.022	.008	.045	.007
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	.005	.014	.008	.001	.021	.000
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	.018	*	.005	*	**n/a**	*	*	*	*	*
N_2	.033	*	.014	*	*	**n/a**	*	*	*	*
M_1	.022	*	.008	*	*	*	**n/a**	*	*	*
I_1	.008	*	.001	*	*	*	*	**n/a**	*	*
C_1	.045	*	.021	*	*	*	*	*	**n/a**	*
T_1	.007	*	.000	*	*	*	*	*	*	**n/a**

j) The Department of Petroleum Resources independently recruits, deploys, promotes and disciplines its own personnel.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.009	*	*	*	*	*	*	*
P_1	*	**n/a**	.002	*	*	*	*	*	*	.000
P_2	.009	.002	**n/a**	*	.000	.014	.001	.034	.000	*
P_3	*	*	*	**n/a**	*	*	.037	*	.010	.008
N_1	*	*	.000	*	**n/a**	*	*	*	*	*
N_2	*	*	.014	*	*	**n/a**	*	*	*	*
M_1	*	*	.001	.037	*	*	**n/a**	*	*	*
I_1	*	*	.034	*	*	*	*	**n/a**	*	*
C_1	*	*	.000	.010	*	*	*	*	**n/a**	*
T_1	*	.000	*	.008	*	*	*	*	*	**n/a**

a) **D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)**

b) **Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table**

c) ***: No Significance difference**

d) **N/A: Not Applicable**

Appendix 3B

f) The Petroleum Products Pricing Regulatory Agency has financial autonomy to determine its own budgets.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.000	*	.001	.000	*	*	*	*
P_1	*	**n/a**	*	*	*	.049	*	*	*	*
P_2	.000	*	**n/a**	*	.000	*	*	*	*	*
P_3	*	*	*	**n/a**	*	.009	*	*	*	*
N_1	.001	*	.000	*	**n/a**	*	.006	*	*	.003
N_2	.000	.049	*	.009	*	**n/a**	.004	.014	*	.001
M_1	*	*	*	*	.006	.004	**n/a**	*	*	*
I_1	*	*	*	*	*	.014	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	.003	.001	*	*	*	**n/a**

g) The Petroleum Products Pricing Regulatory Agency is free to make independent decisions relating to the pricing of petroleum products in the downstream sector.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	.000	*	*	*	*	*
P_1	*	**n/a**	*	*	.009	*	*	*	*	*
P_2	*	*	**n/a**	*	.001	*	*	*	*	*
P_3	*	*	***	**n/a**	.000	*	*	*	*	*
N_1	.000	.009	.001	.000	**n/a**	.003	*	.005	.001	.000
N_2	*	*	*	*	.003	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	.005	*	*	**n/a**	*	*
C_1	*	*	*	*	.001	*	*	*	**n/a**	*
T_1	*	*	*	*	.000	*	*	*	*	**n/a**

h) The Petroleum Products Pricing Regulatory Agency effectively reprimands regulated companies that do not adhere to the pricing regulations.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	.002	*	*	*	.015	*
P_1	*	**n/a**	*	*	.007	*	*	*	.031	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	.002	.007	*	*	**n/a**	.020	.003	*	*	.018
N_2	*	*	*	*	.020	**n/a**	*	*	*	*

M_1	*	*	*	*	.003	*	**n/a**	*	.017	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.015	.031	*	*	*	*	.017	*	**n/a**	*
T_1	*	*	*	*	.018	*	*	*	*	**n/a**

i) The Petroleum Products Pricing Regulatory Agency regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	.020	*	.007	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	.045	*	.013	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	.020	*	.045	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	.007	*	.013	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

j) The Petroleum Products Pricing Regulatory Agency independently recruits, deploys, promotes and disciplines its own personnel.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	.000	*	*	.033	.003	.002
P_1	*	**n/a**	*	*	.027	*	*	*	*	*
P_2	*	*	**n/a**	*	.000	*	*	*	.003	.003
P_3	*	*	*	**n/a**	.034	*	*	*	*	*
N_1	.000	.027	.000	.034	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	.001	.006	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	.033	*	*	*	*	.001	*	**n/a**	*	*
C_1	.003	*	.003	*	*	.006	*	*	**n/a**	*
T_1	.002	*	.003	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance Difference

d) N/A: Not Applicable

Appendix 3C

j) The Petroleum Equalisation Fund has the financial autonomy to determine its own budgets.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	.008	.003	*	*	*	.007
P_1	*	**n/a**	*	*	.018	.002	*	*	*	.028
P_2	*	*	**n/a**	*	.013	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	.045	*	*	*
N_1	.008	.018	.013	*	**n/a**	*	*	*	.032	*
N_2	.003	.002	*	*	*	**n/a**	.048	*	.007	*
M_1	*	*	*	.045	*	.048	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	.032	.007	*	*	**n/a**	.044
T_1	.007	.028	*	*	*	*	*	*	.044	**n/a**

k) The Petroleum Equalisation Fund is free to make independent decisions relating to price equalisation in the downstream petroleum sector.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	.036	.026	.008	.003	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*

P_2	.036	*	**n/a**	*	*	*	*	*	.025	.025
P_3	.026	*	*	**n/a**	*	*	.004	*	*	*
N_1	.008	*	*	*	**n/a**	*	*	*	*	*
N_2	.003	*	*	*	*	**n/a**	*	.035	*	*
M_1	*	*	*	.004	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	.035	*	**n/a**	*	*
C_1	*	*	.025	*	*	*	*	*	**n/a**	*
T_1	*	*	.025	*	*	*	*	*	*	**n/a**

l) The Petroleum Equalisation Fund effectively reprimands regulated companies that do not adhere to price equalisation policy.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	.008	.000	.003	.001	*	*	*	*	.005
P_1	.008	**n/a**	.026	*	*	*	*	*	*	*
P_2	.000	.026	**n/a**	*	*	.009	.003	*	*	*
P_3	.003	*	*	**n/a**	*	*	.044	*	*	*
N_1	.001	*	*	*	**n/a**	*	.015	*	*	*
N_2	*	*	.009	*	*	**n/a**	*	*	*	*
M_1	*	*	.003	.044	.015	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	.005	*	*	*	*	*	*	*	*	**n/a**

m) The Petroleum Equalisation Fund's regulatory decisions are only overruled by a court of jurisdiction or a pre-established appellate panel.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	.005	*	.029	.000	.025	.000	.003	*	.012
P_1	.005	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	.029	*	*	**n/a**	*	*	*	*	*	*
N_1	.000	*	*	*	**n/a**	*	*	*	*	*
N_2	.025	*	*	*	*	**n/a**	*	*	*	*
M_1	.000	*	*	*	*	*	**n/a**	*	*	*
I_1	.003	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	.012	*	*	*	*	*	*	*	*	**n/a**

n) The Petroleum Equalisation Fund independently recruits, deploys, promotes and disciplines its own personnel.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	.010	*	*	.003	*	*	.011	.004	.003
P_1	.010	**n/a**	*	*	*	*	*	*	.012	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	.003	*	*	*	**n/a**	*	*	*	.015	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	.011	*	*	*	*	*	*	**n/a**	*	*
C_1	.004	.012	*	*	*	.015	*	*	**n/a**	*
T_1	.003	*	*	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance Difference

d) N/A: Not Applicable

Appendix 4A, 4B and 4C below presented the Mann-Whitney results in relation to the second hypothesis.

Appendix 4A

i) Guidelines for obtaining import permits are clearly stated and publicised by the Department of Petroleum Resources.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.001	*	.026	.002	.000	*	*	.000	.000
P_1	.001	**n/a**	.044	*	*	*	*	*	*	*
P_2	*	.044	**n/a**	*	.040	.007	*	*	.019	.001
P_3	.026	*	*	**n/a**	*	*	*	*	*	*
N_1	.002	*	.040	*	**n/a**	*	*	*	*	*
N_2	.000	*	.007	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.000	*	.019	*	*	*	*	*	**n/a**	*
T_1	.000	*	.001	*	*	*	*	*	*	**n/a**

j) The Department of Petroleum Resources follows due process in the issue of import licenses to regulated companies.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.000	.027	.024	.009	*	.019	*	.000	.000
P_1	.000	**n/a**	*	*	*	*	*	*	*	*
P_2	.027	*	**n/a**	*	*	*	.005	*	.001	.010
P_3	.024	*	*	**n/a**	*	*	*	*	*	*
N_1	.009	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	.019	*	.005	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.000	*	.001	*	*	*	*	*	**n/a**	*
T_1	.000	*	.010	*	*	*	*	*	*	**n/a**

k) The Department of Petroleum Resources discloses information to the general public relating to the issue of import licenses.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	.041	*	*	*	*	*	*
P_3	*	*	.041	**n/a**	.031	*	.033	*	*	*
N_1	*	*	*	.031	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	.033	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

l) The Department of Petroleum Resources discloses information to the National Assembly relating to the issue of import licenses.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	.040	*
P_1	*	**n/a**	.007	*	*	*	*	*	*	*
P_2	*	.007	**n/a**	*	*	*	*	*	.001	.004
P_3	*	*	*	**n/a**	*	*	*	*	.012	*
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	.023	*
M_1	*	*	*	*	*	*	**n/a**	*	.005	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.040	*	.001	.012	*	.023	.005	*	**n/a**	*
T_1	*	*	.004	*	*	*		*	*	**n/a**

m) The Department of Petroleum Resources discloses the amount of imported petroleum products to the general public

*

n) The Department of Petroleum Resources discloses all discovered malpractices relating to importation of petroleum products.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	.033	*	*	*	.050	.018
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	.033	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.050	*	*	*	*	*	*	*	**n/a**	*
T_1	.018	*	*	*	*	*	*	*	*	**n/a**

o) The Department of Petroleum Resources discloses information relating to petroleum products refined locally.

*

p) The Department of Petroleum Resources discloses all the revenue it generates annually.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.026	*	*	*	*	*	*	*	*
P_1	.026	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance Difference

d) N/A: Not Applicable

Appendix 4B

f) Guidelines to determine the price of petroleum products are clearly stated and publicised by the Petroleum Products Pricing Regulatory Agency.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	.010	*	*	.001	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	.010	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	.001	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

g) The Petroleum Products Pricing Regulatory Agency follows due process in the pricing of petroleum products.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1

D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	.017	*	*	*	.038	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	.017	*	*	**n/a**	*	.003	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	.003	*	**n/a**	*	.007	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	.038	*	*	*	*	.007	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

h) The Petroleum Products Pricing Regulatory Agency discloses to the general public all important information relating to the pricing of petroleum products.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	*	*	*	*	.036	*
P_1	*	**n/a**	*	.010	.003	*	*	.030	.001	*
P_2	*	*	**n/a**	*	.017	*	*	*	.004	*
P_3	*	.010	*	**n/a**	*	.009	*	*	*	*
N_1	*	.003	.017	*	**n/a**	.001	.040	*	*	*
N_2	*	*	*	.009	.001	**n/a**	*	.006	.000	.004
M_1	*	*	*	*	.040	*	**n/a**	.016	*	*
I_1	*	.030	*	*	*	.006	*	**n/a**	*	*
C_1	.036	.001	.004	*	*	.000	.016	*	**n/a**	*
T_1	*	*	*	*	*	.004	*	*	*	**n/a**

i) The Petroleum Products Pricing Regulatory Agency discloses to the National Assembly all important information relating to the pricing of petroleum products.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	.017	.033	*	*	*	*	.011
P_2	*	*	**n/a**	.005	.011	.033	*	.015	.029	.004
P_3	*	.017	.005	**n/a**	*	*	*	*	*	*
N_1	*	.033	.011	*	**n/a**	*	*	*	*	*
N_2	*	*	.033	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	.041
I_1	*	*	.015	*	*	*	*	**n/a**	*	*
C_1	*	*	.029	*	*	*	*	*	**n/a**	*
T_1	*	.011	.004	*	*	*	.041	*	*	**n/a**

j) The Petroleum Products Pricing Regulatory Agency audits all subsidy claims relating to the importation of petroleum products.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	.006	.002	*	*	*	.002	.028
P_1	*	**n/a**	*	.008	.003	*	*	*	.003	.029
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	.006	.008	*	**n/a**	*	*	*	*	*	*
N_1	.002	.003	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.002	.003	*	*	*	*	*	*	**n/a**	*
T_1	.028	.029	*	*	*	*	*	*	*	**n/a**

k) The Petroleum Products Pricing Regulatory Agency follows due process relating to all subsidy payments**.**

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	.000	.000	.020	.049	.008	.001	.000
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	.000	*	**n/a**	*	*	*	*	*	*

N_1	*	.000	*	*	**n/a**	*	*	*	*	*
N_2	*	.020	*	*	*	**n/a**	*	*	*	*
M_1	*	.049	*	*	*	*	**n/a**	*	*	*
I_1	*	.008	*	*	*	*	*	**n/a**	*	*
C_1	*	.001	*	*	*	*	*	*	**n/a**	*
T_1	*	.000	*	*	*	*	*	*	*	**n/a**

l) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to the pricing of petroleum products.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	*	*	*	*	.003	*
P_1	*	**n/a**	.001	.002	.004	*	*	*	.021	*
P_2	*	.001	**n/a**	*	*	*	*	*	.047	*
P_3	*	.002	*	**n/a**	*	*	*	*	.013	*
N_1	*	.004	*	*	**n/a**	*	*	*	.018	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.003	.021	.047	.013	.018	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

m) The Petroleum Products Pricing Regulatory Agency discloses all discovered malpractices relating to subsidy claims for petroleum products.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	.004	.010	*	*	*	*	*
P_1	*	**n/a**	*	.001	.003	*	*	*	*	.005
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	.004	.001	*	**n/a**	*	.005	*	*	*	*
N_1	.010	.003	*	*	**n/a**	.013	*	*	*	*
N_2	*	*	*	.005	.013	**n/a**	*	*	*	.049
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	.005	*	*	*	.049	*	*	*	**n/a**

n) The Petroleum Products Pricing Regulatory Agency periodically discloses all generated revenue to legitimate stakeholders.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	.001	.011	.002	*	*	.006	*	*
P_1	*	**n/a**	.037	.032	.012	*	*	.045	*	*
P_2	.001	.037	**n/a**	*	*	*	*	*	*	*
P_3	.011	.032	*	**n/a**	*	*	*	*	*	*
N_1	.002	.012	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	.006	.045	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 4C

j) Guidelines to equalize the price of petroleum products are clearly stated and publicised by the Petroleum Equalisation fund.

*

k) The Petroleum Equalisation fund follows due process in equalizing the price of petroleum products in the country.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	.003	*	*	*	*	*	*	*
P_2	*	.003	**n/a**	.015	.002	.001	*	.012	.009	.004
P_3	*	*	.015	**n/a**	*	*	*	*	*	*
N_1	*	*	.002	*	**n/a**	*	*	*	*	*
N_2	*	*	.001	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	.012	*	*	*	*	**n/a**	*	*
C_1	*	*	.009	*	*	*	*	*	**n/a**	*
T_1	*	*	.004	*	*	*	*	*	*	**n/a**

l) The Petroleum Equalisation Fund follows due process in determining bridging costs.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.013	*	.004	*	*	*	.009	*
P_1	*	**n/a**	.005	*	.011	*	.006	*	.025	*
P_2	.013	.005	**n/a**	.007	*	*	*	*	*	*
P_3	*		.007	**n/a**	*	*	039	*	*	*
N_1	.004	.011	*	*	**n/a**	*	*	*	*	*
N_2	*		*	*	*	**n/a**	*	*	*	*
M_1	*	.006	*	039	*	*	**n/a**	*	*	*
I_1	*		*	*	*	*	*	**n/a**	*	*
C_1	.009	.025	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

m) The Petroleum Equalisation Fund discloses to the general public, important information relating to price equalisation of petroleum products.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.025	*	*	*	*	*	*	*
P_1	*	**n/a**	.001	*	*	*	*	*	*	*
P_2	.025	.001	**n/a**	.001	.000	.011	.002	.028	.003	.003
P_3	*	*	.001	**n/a**	*	*	*	*	*	*
N_1	*	*	.000	*	**n/a**	*	*	*	*	*
N_2	*	*	.011	*	*	**n/a**		*	*	*
M_1	*	*	.002	*	*	*	**n/a**	*	*	*
I_1	*	*	.028	*	*	*	*	**n/a**	*	*
C_1	*	*	.003	*	*	*	*	*	**n/a**	*
T_1	*	*	.003	*	*	*	*	*	*	**n/a**

n) The Petroleum Equalisation Fund discloses to the National Assembly, information relating to price equalisation of petroleum products.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.003	*	*	*	*	*	*	*
P_1	*	**n/a**	.001	*	*	*	*	*	*	*
P_2	.003	.001	**n/a**	.001	.001	.002	.003	.003	.001	.000
P_3	*	*	.001	**n/a**	*	*	*	*	*	*
N_1	*	*	.001	*	**n/a**	*	*	*	*	*
N_2	*	*	.002	*	*	**n/a**	*	*	*	*
M_1	*	*	.003	*	*	*	**n/a**	*	*	*
I_1	*	*	.003	*	*	*	*	**n/a**	*	*
C_1	*	*	.001	*	*	*	*	*	**n/a**	*
T_1	*	*	.000	*	*	*	*	*	*	**n/a**

o) The Petroleum Equalisation Fund audits all bridging claims relating to the transportation of petroleum products.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	.007	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	.000	*	*	*	*	.012	.021
P_3	.007		.000	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	.012	*	*	*	*	*	**n/a**	*
T_1	*	*	.021	*	*	*	*	*	*	**n/a**

p) The Petroleum Equalisation Fund follows due process relating to the payment of bridging claims.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.011	*	.003	.006	*	*	*	.003	.001
P_1	.011	**n/a**	.000	*	*	*	.026	*	*	*
P_2	*	.000	**n/a**	.000	.000	*	*	*	.000	.000
P_3	.003	*	.000	**n/a**	*	*	.009	*	*	*
N_1	.006	*	.000	*	**n/a**	*	.016	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	.026	*	.009	.016	*	**n/a**	*	.007	.003
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.003	*	.000	*	*	*	.007	*	**n/a**	*
T_1	.001	*	.000	*	*	*	.003	*	*	**n/a**

q) The Petroleum Equalisation Fund discloses all significant discovered malpractices relating to bridging claims.

*

r) The Petroleum Equalisation Fund discloses all revenue it generates relating to the registration of transporters.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.012	*	*	*	*	*	*	*
P_1	*	**n/a**	.000	*	*	*	*	*	*	*
P_2	.012	.000	**n/a**	.000	.001	*	.000	.001	.002	*
P_3	*	*	.000	**n/a**	*	*	*	*	*	*
N_1	*	*	.001	*	**n/a**	*	*	*	*	*
N_2	*	*		*	*	**n/a**	*	*	*	*
M_1	*	*	.000	*	*	*	**n/a**	*	*	*
I_1	*	*	.001	*	*	*	*	**n/a**	*	*
C_1	*	*	.002	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 5A, 5B and 5C below presented the Mann-Whitney results in relation to the first hypothesis.

Appendix 5A

f) The Department of Petroleum Resources consults all legitimate stakeholders in major regulatory decisions.

*

g) The methods used by the Department of Petroleum Resources for the measurement of petroleum products are transparent.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.000	.000	.000	.000	.000	.001	.000	.000	.000
P_1	.000	**n/a**	*	*	*	*	*	*	*	*
P_2	.000	*	**n/a**	*	*	*	*	*	*	*
P_3	.000	*	*	**n/a**	*	*	*	*	*	*
N_1	.000	*	*	*	**n/a**	*	*	*	*	*
N_2	.000	*	*	*	*	**n/a**	*	*	*	*
M_1	.001	*	*	*	*	*	**n/a**	*	*	*
I_1	.000	*	*	*	*	*	*	**n/a**	*	*
C	.000	*	*	*	*	*	*	*	**n/a**	*
T_1	.000	*	*	*	*	*	*	*	*	**n/a**

h) The methods used by the Department of Petroleum Resources for the issue of import licenses to regulated companies are transparent.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	.004	.024	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	.004	*	*	**n/a**	*	*	*	*	*	*
N_1	.024	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

i) The methods used by the Department of Petroleum Resources in monitoring the amount of imported petroleum products are transparent.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.006	.004	.005	.024	.024	*	*	.004	.003
P_1	.006	**n/a**	*	*	*	*	*	*	*	*
P_2	.004	*	**n/a**	*	*	*	.030	*	*	*
P_3	.005	*	*	**n/a**	*	*	*	*	*	*
N_1	.024	*	*	*	**n/a**	*	*	*	*	*
N_2	.024	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	.030	*	*	*	**n/a**		.030	.019
I_1	*	*	*	*	*	*		**n/a**	*	*
C_1	.004	*	*	*	*	*	.030	*	**n/a**	*
T_1	.003	*	*	*	*	*	.019	*	*	**n/a**

j) When the Department of Petroleum Resources refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	.037	.020	*	*	*	.017	.000
P_1	*	**n/a**	*	*	*	*	*	*	*	.009
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	.037	*	*	**n/a**	*	*	*	*	*	*
N_1	.020	*	*	*	**n/a**	*	*	*	*	*

N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.017	*	*	*	*	*	*	*	**n/a**	*
T_1	.000	.009	*	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 5B

e) The Petroleum Products Pricing Regulatory Agency consults all legitimate stakeholders in major regulatory decisions.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	*	.011	*	*
N_2	*	*	*	*	*	**n/a**	.029	.003	*	*
M_1	*	*	*	*	*	.029	**n/a**	*	*	*
I_1	*	*	*	*	.011	.003	*	**n/a**	.050	.009
C_1	*	*	*	*	*	*	*	.050	**n/a**	*
T_1	*	*	*	*	*	*	*	.009	*	**n/a**

f) The methods used by the Petroleum Products Pricing Regulatory Agency in reviewing the price of petroleum products are transparent.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	.015	.005	.001	*	*	*	.014
P_2	*	*	**n/a**	*	.019	.003	*	*	*	*
P_3	*	.015	*	**n/a**	*	*	.032	*	*	*
N_1	*	.005	019	*	**n/a**	*	.008	*	*	*
N_2	*	.001	.003	*	*	**n/a**	.001	*	.007	.006
M_1	*	*	*	.032	.008	.001	**n/a**	*	*	.025
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	.007	*	*	**n/a**	*
T_1	*	.014	*	*	*	.006	.025	*	*	**n/a**

g) The methods used by the Petroleum Products Pricing Regulatory Agency in determining the actual price of petroleum products are transparent.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	.015	*	*	*	.035	*
P_2	*	*	**n/a**	*	.005	.031	*	*	.011	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	.015	005	*	**n/a**	*	.020	*	*	*
N_2	*	*	.031	*	*	**n/a**	*	*	*	*
M_1	*	*	*	.020	*	*	**n/a**	*	.043	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	.035	.011	*	*	*	.043	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

h) When the Petroleum Products Pricing Regulatory Agency refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	.005	*	*	*	*	*
P_1	*	**n/a**	*	*	.001	*	*	*	*	*
P_2	*	*	**n/a**	*	.002	*	*	*	*	*
P_3	*	*	*	**n/a**	.029	*	*	*	*	*
N_1	.005	.001	.002	.029	**n/a**	*	*	.008	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	.008	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 5C

b) The Petroleum Equalisation Fund consults all legitimate stakeholders on major decisions relating to price equalisation.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.001	*	.047	.011	*	*	*	*
P_1	*	**n/a**	.001	*	*	.027	*	*	*	*
P_2	.001	.001	**n/a**	.001	*		.001	.007	.001	.001
P_3	*	*	.001	**n/a**	.033	.005	*	*	*	*
N_1	.047	*	*	.033	**n/a**		.013	*	*	*
N_2	.011	.027	*	.005	*	**n/a**	.004	.047	.028	*
M_1	*	*	.001	*	.013	.004	**n/a**	*	*	*
I_1	*	*	.007	*	*	.047	*	**n/a**	*	*
C_1	*	*	.001	*	*	.028	*	*	**n/a**	*
T_1	*	*	.001	*	*	*	*	*	*	**n/a**

b) The methods used in determining the actual cost of bridging the petroleum products by the Petroleum Equalisation Fund are transparent.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	.009	.015	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	.009	*	**n/a**	*	*	*
I_1	*	*	*	*	.015	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

c) When the Petroleum Equalisation Fund refrains from disclosing confidential information relating to its activities, the rationale for such non-disclosure is explained and justified.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	.007	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*

P_3	*	*	*	**n/a**	*	*	*	*	*	.030
N_1	.007	*	*	*	**n/a**	*	*	*	*	.002
N_2	*	*	*	*	*	**n/a**	*	*	*	.038
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	.030	.002	.038	*	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 6A, 6B and 6C below presented the Mann-Whitney results in relation to the first hypothesis.

Appendix 6A

c) The Department of Petroleum Resources has the capacity to regulate the downstream petroleum sector.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	.008	*	*	.004	.016	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	.008	*	**n/a**	*	.037	*	*	*	.012
N_1	*	*	*	*	**n/a**	*	.037	*	*	*
N_2	*	*	*	.037	*	**n/a**	.022	.040	*	*
M_1	*	.004	*	*	.037	.022	**n/a**	*	*	.005
I_1	*	.016	*	*	*	.040	*	**n/a**	*	.020
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	.012	*	*	.005	.020	*	**n/a**

d) The Department of Petroleum Resources deploys skilled personnel to conduct its downstream regulatory functions.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	.000	.005	*	.000	*	*	*	.015	*
P_1	.000	**n/a**	*	.024	*	*	.008	.033	*	*
P_2	.005	*	**n/a**	*	*	*	*	*	*	*
P_3	*	.024	*	**n/a**	.027	*	*	*	*	*
N_1	.000	*	*	.027	**n/a**	*	.010	.032	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	.008	*	*	.010	*	**n/a**	*	*	*
I_1	*	.033	*	*	.032	*	*	**n/a**	*	*
C_1	.015	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

c) Staff from the Department of Petroleum Resources receive the necessary training to ensure the implementation of quality regulations in the downstream sector.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	.002
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	.001
P_3	*	*	*	**n/a**	*	*	*	*	*	.012
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*		**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	.005
I_1	*	*	*	*	*	*	*	**n/a**	*	*

C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	.002	*	.001	.012	*	*	.005	*	*	**n/a**

d) The Department of Petroleum Resources is effective in establishing a framework for good regulatory governance.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	.024	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	.024	*	**n/a**	*	*	.031
I_1	*	*	*	*	*	*	*	**n/a**	*	.001
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	*	*	.031	.001	*	**n/a**

e) The appointment of the executive management of the Department of Petroleum Resources is primarily based on merit.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	.025	*	*	*	.034	*	*	*
P_2	*	.025	**n/a**	*	.027	*	*	*	.009	.006
P_3	*	*	*	**n/a**	*	*	*	*	*	*
N_1	*	*	.027	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	.034	*	*	*	*	**n/a**	*	.046	.028
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	.009	*	*	*	.046	*	**n/a**	*
T_1	*	*	.006	*	*	*	.028	*	*	**n/a**

f) The personnel of the Department of Petroleum Resources discharge their regulatory duties in a professional manner.

*

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 6B

b) The Petroleum Products Pricing Regulatory Agency has the capacity to regulate the pricing of petroleum products.

*

b) The Petroleum Products Pricing Regulatory Agency deploys skilled personnel to conduct its regulatory functions relating to the pricing of petroleum products.

*

c) Staff from the Petroleum Products Pricing Regulatory Agency receive the necessary training to ensure the implementation of high quality regulations relating to the pricing of petroleum products.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	.003	.002	*	*	*	.009	*
P_1	*	**n/a**	*	.005	.004	*	*	*	.014	*
P_2	*	*	**n/a**	.001	*	*	*	*	.005	*
P_3	.003	.005	.001	**n/a**	*	*	.013	*	*	*
N_1	.002	.004	*	*	**n/a**	*	.007	.001	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	.013	.007	*	**n/a**	*	.024	*

I_1	*	*	*	*	.001	*	*	**n/a**	*	*
C_1	.009	.014	.005	*	*	*	.024	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

d) The Petroleum Products Pricing Regulatory Agency is effective in establishing a framework for good regulatory governance.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	.026	.001	*	*	*	*	*
P_1	*	**n/a**	*	.037	.004	*	*	*	*	*
P_2	*	*	**n/a**	.018	.011	*	*	*	*	*
P_3	.026	.037	.018	**n/a**	*	.026	*	*	*	*
N_1	.001	.004	.011	*	**n/a**	.018	*	.017	*	.006
N_2	*	*	*	.026	.018	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	*	*	.017	*	*	**n/a**	*	*
C_1	*	*	*	*	*	*	*	*	**n/a**	*
T_1	*	*	*	*	.006	*	*	*	*	**n/a**

e) The appointment of the Petroleum Products Pricing Regulatory Agency's executive management is based primarily on merit.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	*	.019	.005	.027	*	*	*	*
P_1	*	**n/a**	*	*	.023	*	*	*	*	*
P_2	*	*	**n/a**	.000	.000	.000	*	*	*	*
P_3	.019	*	.000	**n/a**	*	*	*	*	.029	*
N_1	.005	.023	.000	*	**n/a**	*	.046	*	.002	*
N_2	.027	*	.000	*	*	**n/a**	*	*	.021	*
M_1	*	*	*	*	.046	*	**n/a**	*	*	*
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	*	*	*	.029	.002	.021	*	*	**n/a**	*
T_1	*	*	*	*	*	*	*	*	*	**n/a**

f) The personnel of the Petroleum Products Pricing Regulatory Agency discharge their regulatory duties in a professional manner.

*

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable

Appendix 6C

b) The Petroleum Equalisation Fund has the capacity to regulate bridging activities in accordance with its mandate.

Groups	**D_1**	**P_1**	**P_2**	**P_3**	**N_1**	**N_2**	**M_1**	**I_1**	**C_1**	**T_1**
D_1	**n/a**	*	.033	*	*	*	*	*	*	*
P_1	*	**n/a**	.020	*	*	*	*	.048	*	*
P_2	.033	.020	**n/a**	.040	.011	.004	*	*	.006	.001
P_3	*	*	.040	**n/a**	*	*	*	*	*	*
N_1	*	*	.011	*	**n/a**	*	.032	.032	*	*
N_2	*	*	.004	*	*	**n/a**	.008	.018	*	*
M_1	*	*	*	*	.032	.008	**n/a**	*	*	*
I_1	*	.048	*	*	.032	.018	*	**n/a**	.030	.009
C_1	*	*	.006	*	*	*	*	.030	**n/a**	*
T_1	*	*	.001	*	*	*	*	.009	*	**n/a**

b) The Petroleum Equalisation Fund deploys the necessary personnel to conduct its regulatory functions relating to the downstream petroleum sector.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.007	*	*	*	*	*	*	*
P_1	*	**n/a**	.001	*	*	*	.048	*	*	*
P_2	.007	.001	**n/a**	.001	.000	.002	*	.005	002	.001
P_3	*	*	.001	**n/a**	*	*	*	*	*	*
N_1	*	*	.000	*	**n/a**	*	.021	*	*	*
N_2	*	*	.002	*	*	**n/a**		*	*	*
M_1	*	.048	*	*	.021	*	**n/a**	*	*	*
I_1	*	*	.005	*	*	*	*	**n/a**	*	*
C_1	*	*	002	*	*	*	*	*	**n/a**	*
T_1	*	*	.001	*	*	*	*	*	*	**n/a**

c) Staff from the Petroleum Equalisation Fund receive the necessary training to ensure the implementation of high quality regulations relating to its mandate.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	.009	*	*	*	.027	.003	.010
P_3	*	*	.009	**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	.014	*
I_1	*	*	.027	*	*	*	*	**n/a**		*
C_1	*	*	.003	*	*	.014	*	*	**n/a**	*
T_1	*	*	.010	*	*	*	*	*	*	**n/a**

d) The Petroleum Equalisation Fund is effective in putting in place a framework for good regulatory governance in accordance with its mandate. C_1

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	*	*	*	*	*	*	*
P_3	*	*		**n/a**	*	*	*	*	*	*
N_1	*	*	*	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	.003	.001
I_1	*	*	*	*	*	*	*	**n/a**	.006	.012
C_1	*	*	*	*	*	*	.003	.006	**n/a**	*
T_1	*	*	*	*	*	*	.001	.012	*	**n/a**

e) The appointment of executive management of the Petroleum Equalisation Fund is based primarily on merit.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	*	*	*	*	*	*	*	*
P_1	*	**n/a**	*	*	*	*	*	*	*	*
P_2	*	*	**n/a**	.001	.023	*	*	.002	.003	.003
P_3	*	*	.001	**n/a**	*	*	*	*	*	*
N_1	*	*	.023	*	**n/a**	*	*	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	*	*	*	*	**n/a**	*	*	*
I_1	*	*	.002	*	*	*	*	**n/a**	*	*
C_1	*	*	.003	*	*	*	*	*	**n/a**	*
T_1	*	*	.003	*	*	*	*	*	*	**n/a**

f) The personnel of the Petroleum Equalisation Fund discharge their regulatory duties in a professional manner.

Groups	D_1	P_1	P_2	P_3	N_1	N_2	M_1	I_1	C_1	T_1
D_1	**n/a**	*	.009	.017	.022	*	*	*	.045	.005
P_1	*	**n/a**	.004	*	*	*	*	*	*	.008
P_2	.009	.004	**n/a**	*	*	*	.020	*	*	*
P_3	.017	*	*	**n/a**	*	*	.022	*	*	*

N_1	.022	*	*	*	**n/a**	*	.036	*	*	*
N_2	*	*	*	*	*	**n/a**	*	*	*	*
M_1	*	*	.020	.022	.036	*	**n/a**	*	.049	.005
I_1	*	*	*	*	*	*	*	**n/a**	*	*
C_1	.045	*	*	*	*	*	.049	*	**n/a**	*
T_1	.005	.008	*	*	*	*	.005	*	*	**n/a**

a) D_1=Department of Petroleum Resources (DPR), P_1= Petroleum Products Pricing Regulatory Agency (PPPRA), P_2= Petroleum Equalisation Fund (PEF), P_3 = Pipeline and Product Marketing Company (PPMC), N_1 = Nigerian Extractive Industry Transparency Initiative (NEITI), N_2 = National Assembly (NA), M_1= Major Oil Marketing Companies (MOMC), I_1= Independent Oil Marketing Companies (IOMC), C_1= Civil Society (CS), T_1= Trade Union (TU)

b) Only Mann-Whitney tests with p=values of equal to, or less than 0.05 (i.e. $p \leq .05$) are shown in the table

c) *: No Significance difference

d) N/A: Not Applicable