INDICE

Appendix 1. oil risk Management	
A1.1 Introduction	1
A1.2 impact of the oil price volatility on revenues	
A1.3 The use of futures and option in Venezuela	
Price volatility of crude oil and refined products	3
Basis risk	4
Liquidity	
A1.4 Responsibility for Hedging	6
A1.5 Recommendations	7
Appendix 2. Evaluation of PDVSAs investment program	
A2.1 Petroleos de Venezuela (PDVSA) annual statistics from 1982-1992	9
(in US\$)	
A2.2 Petroleos de Venezuela (PDVSA) annual statistics from 1993-1998	10
(in US\$)-Upstream operating program	
A2.3 Petroleos de Venezuela (PDVSA) annual statistics from 1982-1992	
(in US\$)-Cost and investments	11
A2.4 Petroleos de Venezuela (PDVSA) annual statistics from 1993-1998	
(in US\$)-Cost and investment	12
A2.5Petroleos de Venezuela (PDVSA) annual statistics from 1982-1992	
(in US\$)- financial summary	13
A2.6 Petroleos de Venezuela (PDVSA) annual statistics from 1993-1998	
(in US\$)- financial summary	14
A2.7 Petroleos de Venezuela (PDVSA) annual statistics from 1982-1992	
(in US\$)-cash flow	15
A2.8 Petroleos de Venezuela (PDVSA) annual statistics from 1993-1998	
in US\$)-cash flow	16
Appendix 3. Comparative analysis of fiscal systems	
A.3.1 Introduction	17
A3.2 Methodology, assumptions, and country notes	
A3.3 Results	18
Appendix 3 Figures	
A3.1 Venezuelan current fiscal systems: oil sector field = HV (500	20
mmbbls)- tax take current prices	
A3.2 Venezuelan current Fiscal system: oil sector field = HV (250	
mmbls)- tax take current prices	21
A3.3 Venezuelan current fiscal system: oil sector field = HV (500	
mmbbls)- tax take (RPV @ 10 %)	22
A3.4 Venezuelan current fiscal systems: oil sector field = MV (250	
mmbbls)- tax take (RPV @ 10 %)	23
A3.5 Venezuelan current fiscal system: oil sector field = LV (100	
mmbbls)- tax take (RPV @ 10 %)	24
A3.6 Venezuelan current fiscal system. Oil sector field = VLV (50	
mmbbls)- tax take (RPV @ 10 %)	25
A3.7 Algerian fiscal system. Oil sector field = HV (500 mmbbls)- tax take	
current prices	26
A3.8 Algerian fiscal systems: oil sector field = MV (250 mmbbls)- tax take	
current prices	27

A3.9 Algerian fiscal system-current system: oil sector field = LV (100	
mmbbls)-tax take (RPV @ 10 %)	28
A3.10 Norway fiscal system: oil sector field size = HV (500 mmbbls)- tax	
take current prices (%)	29
A3.11 Norway fiscal system: oil sector HV field (500 mmbbls)- tax take	
(RPV @ 10 %)	30
Appendix 4. Economic impact of private investment in the oil sector	
A4.1 introduction	31
A4.2 the computerized model	
A4.3 Simulation results	
A4.3.1 Scenario 1 results	33
A4.3.2 scenario 2 results	36
A4.3.3 Scenario 3 results	37
A4.3.4 Scenario 4 results	38
Appendix 4 tables	
A4.1 Private developments in the Venezuelan oil sector scenario 1: summary of assumptions	40
A4.2 Venezuela projected discovered reserves	
Scenario 1: 20 exploration ventures/yr	41
A4.3 Total government take (\$ million)	
\$15 per barrel constant prices-scenario 1	42
A4.4 Total government take (\$ million)	
\$23 per barrel constant prices-scenario 1	
A4.5 Total government take (\$ million)	
\$18 per barrel constant prices-scenario 2	43
A4.6 Total government take (\$ million)	
\$18 per barrel constant prices-scenarios 3	44
A4.7 Total government take (million)	
\$18 per barrel constant prices-scenario 4	45
Appendix 5 statistical appendix	
A5.1 Population, employment and income distribution	47
A5.1.1 Population by age group, 1970-93	
A5.1.2 Annual birth and death figures and rats, 1970-93	48
A5.1.3 Employment by economic activity, 1986-92	49
A5.1.4 Employment by branch of economic activity and occupation 1986-	
92	50
A5.1.5 Household labor income distribution, 1971-1991	51
A5.1.6 real household labor income by decile, 1985-91	52
A5.2 National accounts	
A5.2.1 Gross domestic product by sector	53
(current prices), 1986-93	
A5.2.2 shares of gross domestic product at market prices by sector,	
1986-93	54
A5.2.3 Gross domestic product by sector	
(Constant prices 1986-93	55
A5.2.4 Growth rates of gross domestic product at market prices by	
sector, 1986-93	56
A5.2.5 GDP of the public and private sector by economic activity, 1986-	
89	57

AFOF ODD (Class I II) and the control of the control of the control of	
A5.2.5 GDP of the public and private sector by economic activity (cont), 1990-93	58
	56
A5.2.6 Gross domestic product by type of expenditure (Current prices), 1986-93	59
A5.2.7 Shares of GDP by type of expenditures, 1986-93	60
A5.2.8 Gross domestic product by type of expenditure	00
(Constant prices), 1986-93	61
A5.2.9 GDP growth rate by type of expenditure, 1986-93	62
A5.2.10 Implicit price deflators for GDP, 1984-93	63
A5.2.11 Rate of growth of implicit price deflators for GDP, 1985-93	64
A5.2.12 National disposable income, 1986-93	65
A5.2.13 Shares of national disposable income, 1986-93	66
A5.2.14 Fixed gross investment by type of good, imported and domestic,	
1986-93	67
A5.2.15 Investments and its financing, 1986-93	68
A5.3 Balance of payments	
A5.3.1 Balance of payments, 1986-93	69
A5.3.2 Composition of merchandise exports by public and private sector,	70
1986-93	
A5.3. 3Composition of merchandise imports, 1986-92	71
A5.3.4 Imports by economic activity, 1986-92	72
A5.3.5 Official international reserves (end of period), 1986-93	73
A5.3.6 average exchange rates, 1987-1993	74
A5.4 External debt	
A5.4.1 Public and private external debt, 1987-1992	75
A5.5 Public finance	
A5.5.1 Restricted public sector fiscal accounts, 1984-93	76
(Current Bolivars)	
A5.5.2 Restricted public sector fiscal accounts, 1984-93	
(GDP Shares)	77
A5.5.3 Central government finances, 1984-93	70
(Current Bolivars)	78
A5.5.4 Central government finances, 1984-93	70
(GDP Shares)	79
A5.5.5 Venezuela fiscal accounts: PDVSA, 1984-93	80
(Current Bolivars) A5.5.6 Venezuela fiscal accounts: PDVSA, 1984-93	60
(GDP Shares)	81
A5.5.7 Venezuela fiscal accounts: non-financial state owned	01
Enterprises, 1984-93-(current Bolivars)	82
A5.5.8 Venezuela fiscal accounts: non-financial state owned	02
Enterprises, 1984-93-(GDP shares)	83
A5.5.9 Venezuela fiscal accounts: Venezuelan investment	- 55
Fund, 1984-93-(current Bolivars)	84
A5.5.10 Venezuela fiscal accounts: Venezuelan investment	
Fund, 1984-93- (GDP shares)	85
A5.6 Monetary statistics	
A5.6.1 Selected interest rates, 1984-1993	86
A5.6.2 Money supply indicators, 1984-1993	87

5.7 Industry and industrial employment and wages	
A5.7.1 Production of the Venezuelan oil sector, 1986-91	88
A5.7.2 Value added in industrial production, 1986-91	89
A5.7.3 Volume of production for selected industries, 1986-91	90
A5.7.4 employment by industrial classification, 1986-91	91
A5.7.5 Real average annual wages for employees, by industry, 1986-90	92
A5.7.6. Real average annual wages for workers, by industry, 1986-90	93
A5.7.7 Percentage o labor cost to value added, by industry 1986-90	94
5.8 Prices	
A5.8.1 Cost of living index, 1984-1993	95
A5.8.2 Wholesale price index, 1984-1993	96
5.9 Education and health	
A5.9.1 Distribution of the population over 15 years of age by level of	97
education, sex, and location, 1984-1992	
A5.9.2 Illiteracy rate of the population over 10 years of age by sex and	
age group, 1984-1992	98
A5.9.3. Student dropouts from basic education by grade, 1984-1991	99
A5.9.4 Students repeating a grade within basic education by type of	
institution, 1984-992	100
A5.9.5 Student/teacher ratio in basic education by type of institution,	
1984-1992	101
A5.9.6 Health indicators, 1984-1992	102
Bibliography	103