



## From Oil to Natural Gas: Prospects and Challenges for the Trinidad and Tobago Economy

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### Abstract

*Traditionally, the crude oil sector has been the main driver behind Trinidad and Tobago's economic growth and development, facilitated by an evolving petroleum regime which, over time was modified to encourage foreign investments and enhance government revenues from the sector. Declining crude oil production and prices after 1978's however resulted in significantly declining government revenues. This resulted in a fundamental shift in government policy from crude oil to natural gas production the strategy by which the government sought to mitigate the collapsing oil revenues. Since then, the government of Trinidad and Tobago has successfully monetized its abundant reserves of natural gas such that there is significant diversification from oil to natural gas production. The problem however, is that the gas sector's contribution to government revenues, GDP and foreign exchange are minimal, reflecting the failure of the government in acting decisively to implement changes to the fiscal regime. Even though the structure of production has shifted, the current fiscal regime is deficient. This is evidenced by the fact that there is a significant discrepancy between gas revenues and natural gas production. To a great extent, this discrepancy lies more in the realm of politics rather than economics including the weakness of government negotiators and the influence of multinationals on local government authorities. The paper outlines the importance of the energy sector, the petroleum regime, and possible ways to amend the legislation to realize increased benefits from the natural gas sector.*

**Keywords:** Natural gas, LNG, economic growth, fiscal regimes, fiscal incentives, economic development.

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## Table of Contents

|   |           |
|---|-----------|
| <u>1.1 Introduction</u>   | <u>1</u>  |
| <u>2.1 The Energy Sector and the Macroeconomy</u>                           | <u>4</u>  |
| <u>2.2 The Petroleum Taxation Regime</u>                                    | <u>9</u>  |
| <u>2.2.1 Fiscal Regime Pre-1988 Era</u>                                     | <u>10</u> |
| <u>2.2.2 Fiscal Regime 1998-1991</u>  | <u>11</u> |
| <u>2.2.3 Fiscal Regime 1992 to the Present</u>                              | <u>13</u> |
| <u>2.4 The Fiscal Regime - 1992 and Beyond</u>                              | <u>16</u> |
| <u>2.5 Fiscal Incentives for Natural Gas: The Natural Gas Era</u>           | <u>17</u> |
| <u>2.6 The Critical Issues and Challenges Facing the Natural Gas Sector</u> |           |
| <u>2.7 The Challenge</u>  | <u>23</u> |
| <u>2.8 Conclusion</u>   | <u>26</u> |
| <u>List of references</u>   | <u>27</u> |

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List of Tables

|   |    |
|---|----|
| Table 1 Selected Economic Indicators                | 7  |
| Table 2 Projected Rates of GDP Growth               | 7  |
| Table 3 Existing Gas Based Plants                   | 9  |
| Table 4 Contribution of Petroleum and Petrochemical | 10 |
| Table 5 LNG Exports                                 | 11 |
| Table 6 Impact of LNG on the Economy                | 12 |
| Table 7 SPT Rates                                   | 23 |
| Table 8 Fiscal Incentives Granted to Companies      | 26 |

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## 1.1 Introduction

During the last decade the government of Trinidad and Tobago has been able to rapidly monetize its abundant reserves of natural gas insomuch as to say that there has been significant diversification from crude oil to natural gas production. In fact since 1997, production of natural gas has surpassed that of crude oil in barrels of oil equivalent (boe) and only in this vein Trinidad can be considered a natural gas economy.

As late as the 1970's natural gas was seen as a nuisance by-product of crude oil and was largely flared. By the mid 1970's and early 1980's, however, a natural gas-based industrialization strategy was seen in as the way to mitigate against the falling revenues from the crude oil sector. The aim of government at that time was to develop an alternative to the country's dependence on crude oil as the main revenue earner. Government's policy thus was to build natural gas-based plants producing fertilizers such as ammonia and urea in what is known as the Point Lisas Industrial Estate in Couva.

Since then, natural gas has been used largely as a petrochemical feedstock in the production of methanol, ammonia and urea and in the generation of electricity. When natural gas is used to produce petrochemicals for the export market, this is an *indirect export* of natural gas. Today, natural gas is still largely a petrochemical feedstock, however, the country has now ventured into the *direct export* of natural gas with the commissioning of the first liquefied natural gas (LNG) plant in 1999. Currently, two new additional LNG plants are under construction and are scheduled to come on stream by the year 2002 and 2003 respectively. Not only has this country become the largest exporter (from a single country) of ammonia and methanol in the world, but more

importantly by the year 2003 it will also be the world's fifth largest exporter of LNG.

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There is little doubt that over the years the economy has benefited from the rich endowments of oil and to a lesser extent natural gas. In fact, the statistics suggest that while Trinidad and Tobago has achieved significant growth it is yet to achieve high economic development<sup>2</sup>.

The World Bank defines economic growth as a quantitative change or expansion in a country's economy and is measured as the percentage increase in gross domestic product during one year. Table 1 below depicts selected macroeconomic indicators for Trinidad and Tobago over the period 1989-2000, while Table 2 offers some preliminary predictions of GDP from 2001-2003. The evidence shows that there was positive economic growth over the period with the highest GDP rate occurring during the late 1990's.

The high growth rates in the late 1990's coincide with the construction and start up of some major gas-based plants in Trinidad. The rate for 2000 has been revised from 7.9% to 4.2% taking into consideration the possibility of an impending global recession. Nevertheless, the projections for the year 2001-2003 are positive at 3.0 and 2.9 per cent, coinciding with start up of production by the Atlantic LNG trains 2 and 3 facilities, the Caribbean Nitrogen ammonia facility and the Atlas methanol plant. It is commendable that the government has and continues to boost economic growth over the past decade by offering excellent fiscal incentives to attract significant foreign investments in the energy sector.

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<sup>2</sup> See UNDP report on "Human Development 2001 Report"

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But economic growth does not equal economic development. It is true that growth by increasing a nation's total wealth enhances its potential for reducing poverty and solving other social problems. But historically a one can find examples (some Middle Eastern countries) where economic growth was not followed by similar progress in human development.<sup>3</sup> Instead growth was achieved at the cost of greater inequity, higher unemployment, weakened democracy, loss of cultural identity, or overconsumption of resources needed by future generations. Thus as the links between economic growth and social and environmental issues are better understood, experts including economists tend to agree that this kind of growth is inevitably unsustainable- that is, it cannot continue along the same line for long.<sup>4</sup>

Thus economic development may be defined as the qualitative change and restructuring in a country's economy in connection with technological and social progress. One main indicator of economic development is increasing GDP per capita, reflecting an increase in the economic productivity and average material wellbeing of a country's population.

According to the UNDP's 2001 Human Development Report, out of a total of 162 countries, Trinidad and Tobago is ranked 49<sup>th</sup> in the world. This places Trinidad and Tobago in the medium human development category. The main indicators used are life expectancy, education, and GDP per capita. These are further sub-divided to include categories such as human and income poverty, inequality in income, commitment to health, gender issues etc, priorities in public spending etc. The report revealed that in 1999 GDP per capita was US \$ 8176, yet 21 per cent of the population was living below the poverty line,<sup>5</sup> and there were 79 physicians for every 100,000 persons.<sup>6</sup>

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<sup>3</sup> Examples of these are countries in the Middle East.

<sup>4</sup> The World Bank's *Beyond Economic Growth* captures this in a detailed analysis.

<sup>5</sup> Living on less than US\$ 1.00 per day.

The Gini coefficient<sup>7</sup>, or the extent to which the distribution of income among individuals within a country deviates from a perfectly equal distribution was measured as 40.3. If one considers that an index of 0 signifies perfect equality and 100 perfect inequality, it means that the distribution of income in Trinidad and Tobago is very unequal. Additionally, the richest 20 per cent command 45.9 per cent of total income.

Interestingly enough the Trinidad and Tobago Human Development Index (HDI) during the 1995 to 1999 period reveals a declining trend. In fact, in 1995 Trinidad was ranked 40<sup>th</sup> in the world, and with a HDI index of 0.880 was in the high human development category. By the year 1995, the HDI index was reported to have declined to 0.797, was ranked 46<sup>th</sup> in the world and had moved from high human development to medium human development. In 1999, Trinidad continues to move further down the development scale. With a HDI index of 0.798 and a rank of 49<sup>th</sup> in the world Trinidad and Tobago is in the medium human development category.

So it is worrying that the HDI index have declined during the 1995-1999 period, the said period in which Trinidad and Tobago experienced the highest economic growth, (see Table 1 below) and the period which experienced the highest development in the gas and gas-based sector. It is also noteworthy to mention that this is also the period which experienced the greatest number of plant commissioning. In fact it is during this period that Trinidad and Tobago became the number one producer of ammonia and methanol in the world from a single country. Additionally, foreign direct investment also at its highest during the 1995-1999 period.

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<sup>6</sup> In the developed world this figure is approximately 300 physicians per 100,000 people.

<sup>7</sup> This is a measure from 1992, later figures were not available.

The indications are clear, economic growth and development are moving in the opposite direction, the poverty rate is increasing and the distribution of wealth is becoming more uneven.

Table 1 Selected Economic Indicators 1989-2000

|                                  | 1989  | 1990  | 1991  | 1992  | 1993  | 1994 | 1995 | 1996 | 1997 | 1998  | 1999  | 2000 |
|----------------------------------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|------|
| Real GDP growth (%)              | (0.7) | (0.1) | 2.7   | (1.7) | (1.6) | 3.6  | 3.8  | 3.9  | 3.5  | 5.6   | 7.0   | 4.2  |
| Inflation rate (%)               | 11.4  | 11.1  | 3.8   | 6.6   | 10.8  | 8.8  | 5.3  | 3.3  | 3.7  | 5.6   | 3.4   | 3.6  |
| Unemployment rate (%)            | 22.0  | 20.0  | 18.5  | 19.6  | 19.8  | 18.4 | 17.2 | 16.3 | 15.0 | 14.2  | 13.1  | 12.5 |
| Government balance (as % of GDP) | (4.1) | (1.3) | (0.2) | 2.8   | (0.2) | 0.0  | 0.2  | 0.5  | 0.2  | (1.9) | (3.2) | 1.6  |

Source: Central Bank, Ministry of Finance, Central Statistical Office.

Table 2 Projected Rates of GDP Growth

|      |     |
|------|-----|
| 2001 | 3.0 |
| 2002 | 2.9 |
| 2003 | 2.9 |

Source: Central Bank of Trinidad and Tobago

There are further issues with economic growth in Trinidad and Tobago and its relationship with the international commodity markets. In fact, when international commodity prices of oil, petrochemicals and now natural gas (LNG) are buoyant, there is significant growth in investment, and short-term employment associated with construction and development. When the prices of these fall, especially oil, there is contraction in the local economy. In fact, exporters of primary products are often subject to the vagaries of the market, thus onus on the authorities is to ensure the revenues collected are in tandem with production of the depleting natural resources, (which can only be achieved by appropriate fiscal regimes), or, used in ways that enhances the quality of life of the population on an equitable basis.



Thus there is need for diversification into downstream industries producing higher valued products (which are not subject to the cyclical nature of the markets) and investments into the services, agriculture, manufacturing and information technology industries. More importantly there is need for investments into the real resource of a country, its people. More critically to economic development efforts however is the ability to reform the cultural and political aspects that may serve as a hindrance to real diversification efforts, and which prevents countries from becoming true “economic tigers” as those in the East.

With this in mind this paper presents the energy sector and its contribution to the economy of Trinidad and Tobago.

### **2.1 (A) The Energy Sector and the Macroeconomy**

Within the last five years the government of Trinidad and Tobago has approved several new projects in the energy sector and to date can boast of having one of the leading gas-development areas in the world. Recently, a significant number of natural gas-based petrochemical plants<sup>8</sup> have been commissioned, as a result which Trinidad and Tobago can boast of having eight (8) worldscale ammonia plants and five methanol plants, making it the world’s largest exporter of ammonia and methanol. In addition, and even more importantly, three export-oriented liquefied natural gas (LNG) facilities were approved with a combined capacity of 9.6 million metric tons, which will make Trinidad the fifth largest exporter of LNG in the world.<sup>9</sup> See Table 2 below entitled “ Existing Gas-Based Plants - 2000” and “Plants Under Construction” respectively.

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<sup>8</sup> These gas-based petrochemical industries consist of the ammonia, methanol and urea plants.

<sup>9</sup> See Appendix 1

In 2000<sup>10</sup>, the petroleum sector inclusive of petrochemicals accounted for an estimated 26% of GDP and about 63.4% of total exports, while total government revenue from the industry was TT \$4.5 billion (US\$ 0.71 billion) or 8.1% of GDP.<sup>11</sup> During the period 1995-2000 revenues from the oil sector contributed on average about 26% of central government revenues. Tax revenues from the petroleum sector (oil and petrochemicals) were derived mainly from corporation taxes which accounted for about 50% of total revenues from the industry in 2000. Of the total government revenues the upstream sector accounted for approximately 70% while, corporation taxes, signature bonuses and other incentives accounted for the remaining 30 %. Moreover, the tax incentives granted to the downstream petrochemical producers significantly reduced the contribution from that sector.<sup>12</sup>

Table 3 Existing Gas-Based Plants - 2000

| Company            | Year Started | Cost US\$ M | Product         |
|--------------------|--------------|-------------|-----------------|
| Hydro-Agri T'dad   | 1959         | Na          | Ammonia         |
| Tringen 1          | 1977         | 125.0       | Ammonia         |
| C'bbean Ispat Ltd. | 1980         | 468.3       | Iron & Steel    |
| PCS Nitrogen 1     | 1981         | 333.3       | Ammonia         |
| PCS Nitrogen 11    | 1984         | 172.5       | Granular Urea   |
| TT Methanol Co. 1  | 1984         | 182.8       | Methanol        |
| Tringen 11         | 1988         | 350.0       | Ammonia         |
| PPGPL              | 1991         | 98.8        | Propane, butane |
| C'bbean Methanol   | 1993         | 200.0       | Methanol        |
| TT Methanol Co. 11 | 1996         | 235.0       | Methanol        |
| PCS Nitrogen 111   | 1996         | 75.0        | Ammonia         |
| Petrotrin          | 1997         | 12.0        | MTBE            |
| PCS Nitrogen IV    | 1998         | 252.0       | Ammonia         |
| Farmland/MissCh    | 1998         | 300.0       | Ammonia         |
| Methanol IV        | 1998         | 265.0       | Methanol        |
| Cleveland Cliffs   | 1999         | 115.0       | Iron & Steel    |
| Ispat DRI          | 1999         | 200.0       | Iron            |
| Atlantic LNG 1     | 1999         | 925.0       | LNG             |
| Titan Methanol     | 1999         | 261.0       | Methanol        |

<sup>10</sup> See Table 3.

<sup>11</sup> Rate of exchange used was US \$1=TT\$ 6.29 throughout the document.

## Plants Under Construction

|                   |           |       |          |
|-------------------|-----------|-------|----------|
| LNG 11&111        | 2002/2003 | 1,100 | LNG      |
| C'ibbean Nitrogen | 2002      | 300.0 | Ammonia  |
| Atlas Methanol    | 2003      | 300.0 | Methanol |

Source: Central Bank of Trinidad and Tobago.

Table 4 - Contribution of petroleum and petrochemicals to the economy

|   | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|------|------|------|------|------|------|
| <b>Petroleum Sector(oil,&amp;petrochem)</b> |      |      |      |      |      |      |
| As a % of GDP                               | 24.9 | 23.5 | 23.4 | 23.4 | 24.5 | 26.1 |
| As a % of exports                           | 75.0 | 70.1 | 76.0 | 76.0 | 78.3 | 63.4 |
| <b>Oil Sector only</b>                      |      |      |      |      |      |      |
| As a % of GDP                               | 21.1 | 20.1 | 19.8 | 19.8 | 20.2 | 22.0 |
| As a % of exports                           | 49.3 | 46.1 | 49.8 | 49.8 | 60.4 | 30.3 |
| As a % of current govt rev.                 | 29.8 | 22.6 | 17.7 | 17.7 | 20.6 | 48.9 |
| <b>Petrochemicals only</b>                  |      |      |      |      |      |      |
| As a % of GDP                               | 3.0  | 3.4  | 3.6  | 3.6  | 4.3  | 4.1  |
| As a % of exports                           | 25.7 | 24.1 | 26.2 | 26.2 | 17.9 | 14.5 |
| <b>Real GDP Growth Total Economy</b>        | 3.8  | 3.9  | 3.5  | 5.6  | 7.0  | 7.9  |

Source: Central Statistical Office

Since 1997 natural gas production has surpassed that of crude oil in barrels of oil equivalent.<sup>13</sup> In 2000, crude oil production is estimated at 43.6 million barrels while gas production is estimated at 108 million barrels of oil equivalent. (mn boe). Of the total gas production, LNG exports currently (in mn boe) represent about 37% or about 40 million barrels.

Furthermore, when ALNG trains 2 and 3 come on stream gas production will reach an estimated at 188 mn boe, while exports of LNG is estimated at about 124 mn boe or about 66% of total gas production in mn boe. By the year 2003, "direct" gas exports would have surpassed that of crude oil threefold.<sup>14</sup> Table 4 below examines this pattern in detail. Since the country now directly exports natural gas it is important to examine the volumes that will be exported in 2004 when all the trains become fully operational.

<sup>12</sup> These were calculated from Central Bank of Trinidad and Tobago Statistics.

<sup>13</sup> See Table 5.

<sup>14</sup> Natural gas is indirectly exported when it is used to produce petrochemicals for the export market and directly exported when it is exported in the liquefied form LNG.

Another dimension to this is the depletion policy debate and the proven reserves situation. At current reserves to production ratio, there is another 37 years of natural gas remaining, by 2004 the reserves to production ratio will be 23 years (with the ALNG expansion and given no new petrochemical plants commissioned).<sup>15</sup>

Table 5 LNG exports in barrels of oil equivalent (mn boe)

| <i>In million barrels of oil equivalent (mn boe)</i> | <i>2000 (with ALNG train 1 in full operation)</i> | <i>2004 (when all three trains are fully operational)</i> |
|--|---|---|
| Oil Production (mn boe)                              | 48 mn bbls  | 45 mn bbls  |
| Gas Production (mn boe)                              | 108 mn boe  | 188 mn boe  |
| Of which LNG exports (of total gas production)       | 40 mn boe (represents 37% of total)               | 124 mn boe (represents 66% of total)                      |

Source: Author's Calculation

Over the past two decades, Trinidad and Tobago have been able to attract approximately US \$ 5.5 billion (TT \$35 billion) in investments in the gas sector leading to an increase in economic growth during the last decade. These new investments in productive capacity will lead to faster rates of economic growth, increasing it from just around 4 per cent per annum to approximately 5 per cent per annum over the next five years.<sup>16</sup> There is economic growth yet within the last decade the UNDP Human report has depicted Trinidad and Tobago as having a declining development index. Possibly, the earnings to the state's treasury from this expanding and dynamic natural gas sector have not contributed significantly to the country's economic development. Increasing the net revenues and overall benefits from the gas sector would involve examining, reviewing and restructuring the fiscal regimes that govern the gas sector both on the upstream and the downstream side.

<sup>15</sup> Estimates of the Ministry of Energy.

<sup>16</sup> Central Bank Estimates.

### Upstream benefits

At the time of writing it was not possible to separate upstream revenues from the oil and gas sector. Table 3 depicts only two categories, namely, oil which includes gas and petrochemicals. To be able to distinguish the oil's contribution from that of the gas one would need to calculate cost oil and cost gas at the wellhead and obtain the company's revenue stream from the oil and the gas. With this information it would be possible to prorate the contribution from oil and gas.<sup>17</sup> The dilemma however is obtaining this information from BP, who in no uncertain terms has announced that they are an integrated company and it is not in their interest to provide such information.

According to Atlantic LNG, benefits from the Atlantic LNG trains 1,2 and 3 have been stated as US\$ 5.5 - 6 billion in income to the government over the next 20 years. As will be pointed out later there might be some serious issues with regards to this figure. Since these plants are more capital intensive than the petrochemical plants, permanent employment will be less than 200 persons. Furthermore, when all three trains become operational in 2003 the contribution to GDP will be about 4 per cent.

Indirectly the LNG plant will have some effect upon government revenues via dividends and profits realized by the NGC (a 10 per cent partner in the train 1 project). The table below gives an indication of the benefits that may be derived from the three trains of LNG.

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<sup>17</sup> This has been successfully done in Indonesia and Malaysia in a simple manner.

TABLE 6 IMPACT OF LNG ON THE ECONOMY: SELECTED INDICATORS

|                             |  |
|-----------------------------|--|
| Gross Domestic Product      | Slight increase in Petroleum<br>Significant increase in Manufacturing<br>Slight improvement in Finance, Insurance and Real Estate.   |
| Balance of Payments         | Temporary worsening of Trade account- Imports (via increased imports of machinery in the construction phase)<br>Improvement in Terms of Trade – Exports (via LNG exports, liquids exports)   |
| Employment                  | In the construction stage, net increase in temporary employment of 3,000 at peak (Civil engineers, mechanical engineers, manual labourers, etc.)<br>In operational stage, increase in permanent employment of 140 people, of which 120 from TT. (Plant operators, shift engineers, administrative managers, maintenance personnel)   |
| Foreign exchange generation | Significant gross earnings (exports of LNG) not net earnings accruing to the economy.<br>Slight conversions of foreign exchange by Atlantic LNG to Trinidad and Tobago dollars take the form of payments to local subcontractors, local wages and salaries, land and building taxes, etc.  |
| Public Finance              | Slight increase in tax revenues from upstream sales of gas (pretax profit on BP Amoco gas sales taxed at 55 % (petroleum profits tax (PPT) and Unemployment Levy (UL))<br>Taxation of condensate from ALNG gas (supplemental petroleum tax (SPT) , PPT , UL)<br>Extremely Limited royalties on gas sold to ALNG by BP Amoco.<br>Taxation of increased NGC revenue (dividends from 10 per cent shareholding). |

AGGREGATE BENEFITS FROM ALNG

|   | US \$ million         |
|---|-----------------------|
| Total benefits from three trains (20 years of project)    | 6,000                 |
| LESS: Revenue from Trains II & III (US \$1.8 billion * 2) | 3,600                 |
| <b>TOTAL BENEFIT FROM ALNG I (20 years)</b>               | <b>2,400</b>          |
| <b>TOTAL BENEFIT FROM ALNG I (1 year)</b>                 | <b>120</b>            |
| <b>TOTAL BENEFIT FROM ALNG I (1 year) (TT \$Mn)</b>       | <b>TT \$ MN 754.8</b> |

*Source: Computed from data in Energy Day, (#226, June 18, 1999; Special Supplement on the Atlantic LNG project)*

Downstream Benefits

The petrochemical companies at Point Lisas consumes the majority of the gas in Trinidad and Tobago, but have never been a revenue earner for the government of Trinidad and Tobago. In fact, petrochemical companies internationally have never been a major earner of revenue for host governments. During the period 1977 to 1995 the contribution from the petrochemical plants to national income have averaged merely TT \$300 million (US \$47 million) per year. Even when their tax holiday period is over they have lowered their tax liability by using the accelerated depreciation method or additionally

they have net off their tax liability by their VAT refunds held over from the construction period.

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During the 1997-2001 period several new ammonia and methanol plants were commissioned, as a result there was an associated "construction boom and a "natural gas usage boom." These new plants fall into the same category as the existing plants because they have had significant allowances and tax holidays. As a result they will never be a significant source of government revenue.

Petrochemical plants are all capital intensive and as such are not a significant form of employment. As a result total permanent employment at all the petrochemical plants are approximately 2,500 persons.

During the period 1985-1993 net foreign exchange earnings or what is available to the economy after one account for debt, cost of sales and operating expenses was approximately TT \$ 145.9 million (US \$23) per year. After 1993 all petrochemical companies were divested as a result companies only bring into Trinidad what monies they need in order to pay for utilities, natural gas and wages and salaries, and other operating expenses. The majority of their expense is payments to the NGC for natural gas.<sup>18</sup> Thus on a yearly basis (1997 TO 2000) the average net earnings to the government from the petrochemical plants are approximately TT \$400 million (US \$63 million).

With respect to the effect of on the Balance of Payments, gas related exports are recorded in the external accounts as merchandise exports and hence any increase contributes to an improvement in the current account position. However, because the sector is extensively foreign owned there is

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<sup>18</sup> The majority of their earnings are kept in foreign Escrow accounts.

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a simultaneous weakening in the capital account in the form of private capital outflows. Export earnings from the gas sector does not necessarily translate into foreign exchange earnings for the domestic economy. The major exporters in the downstream gas industry do not feature as regular players in the domestic foreign exchange market. Consequently, the corresponding entry in the balance of payments accounts is *not* a build-up in the reserve account of either the Central Bank or the commercial banks but rather increases in foreign currency accounts held abroad or some other form of *'foreign investment'*. As a result, Trinidad and Tobago recently experienced a situation where trade surpluses and current account surpluses coincided with critical shortages in the foreign exchange market.

Furthermore, because the gas sector is largely foreign owned, remittances of profits and dividends have grown substantially in recent times and investment income outflows are expected to surpass US \$1 billion by 2002. This will significantly erode any potential benefits from increased exports in this sector.

As mentioned before most of the gas-related companies, (including ALNG Train 1) are currently enjoying significant tax holidays. (ALNG Trains 2 & 3 do not have any such concessions and are expected to remit corporation taxes to the authorities in US dollars). At the expiration of these concessions there should be some contribution to the country's stock of reserves. Given that the potential corporation tax take from the gas sector may be dubious the recommendation is for a more efficient production-based taxation regime similar to what currently obtains for crude oil.<sup>19</sup>

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<sup>19</sup> The author consulted a Research Department brief on the BOP effects.



In summary, since the government does not currently own the gas resources, revenues from this sector should accrue from taxes levied on the upstream and downstream sector. For a number of reasons revenues from the sector is minimal, thus government incentives for investment are numerous yet the tax system is lacking. On the upstream side, BP produces 70 per cent of the gas yet they pay approximately 1.5-2.0 cents per thousand cubic feet and there is no supplemental tax on gas production. On the downstream side the petrochemical companies pay very little corporation taxes.

*Thus, while the structure of production in the economy has changed (from oil to natural gas production) the structure of the economy has not since the government is still largely dependent on crude oil revenues. In 2000 the oil sector accounted for 50 per cent of government revenues, this figure fluctuates with the price of oil. This is even more evident when one consider that the budget is still based on an oil price rather than a natural gas price. Even more importantly is the fact that the fiscal arrangements have not reflected this change in the structure of production. Thus if one were to speak of diversification in the economy over the past 20 years, one would be referring to diversification in terms of production rather than revenues. Currently, there is no separate legislation for natural gas in Trinidad and Tobago, the petroleum legislation deals primarily with crude oil, and over the years has not reflected the changing structure.*

The petroleum taxation regime in Trinidad and Tobago is presented in the following section. The idea here is to examine how the system evolved with the dynamic changes in the industry over time and to depict the various taxes and supplemental taxes that govern the oil sector while capturing the rents for the governments.

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## 2.2 The Petroleum Taxation Regime<sup>20</sup>

During the 1970's and 1980's, the primary aim of petroleum taxation was the maximization of government revenue. During the oil shocks of the 1970's substantial revenues were earned which have been used to improve the economic and social variables of Trinidad and Tobago. By the 1980's however, despite maturing oil fields, structural decline in crude oil output and lower price levels, the primary purpose of petroleum legislation was the consolidation of existing levels of petroleum revenues and the maintenance of a stable level of crude oil production. Thus in 1992 in its bid to stimulate long-term production, the petroleum tax regime was amended in order to encourage foreign companies interested in oil exploration and development. Since 1992 however there have been no major changes to the petroleum fiscal regime. In fact the only changes have been more production sharing contracts (PSC's) offered to foreign companies

### 2.2.1 Fiscal Regime Pre-1988 Era

Prior to 1988, the petroleum taxation system of Trinidad and Tobago was characterized by various taxes. Some were applicable to companies involved in petroleum production, while others to companies involved in other petroleum-associated activities. The taxes specific to petroleum production included:

- ❖ The Petroleum Profits Tax (PPT), which replaced the Corporation Tax from 1974
- ❖ Royalties on petroleum production, defined by the terms of crude oil leases

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<sup>20</sup> See "Amendments to the Petroleum Taxation Regime in 1992: Will they work?" by Richard Jobity in QEB Vol XVIII No.1 March, 1993.

- ❖ ~~A Petroleum Impost which was used to pay for the administrative expenses of the Ministry of Energy~~
- ❖ A Petroleum Production Levy (PPL) used to subsidize petroleum product prices in the domestic market.
- ❖ All corporate entities paid an Unemployment Levy, Withholding Tax<sup>21</sup> and import duties.
- ❖ In 1981, a Supplemental Petroleum Tax (SPT) was introduced, along with a Production Allowance and an Exploration Allowance, both deductible from gross income in computing the level of SPT.
- ❖ The rates of SPT and certain allowances were amended between 1983 and 1985. In July 1983, the rates of SPT in marine areas were reduced from 60 per cent to 55 per cent, and in land areas from 35 per cent to 15 per cent.<sup>22</sup>

Under the PPT, several current and capital expenses incurred were deductible as allowances. These included:

- ❖ A Submarine Well Allowance for offshore production
- ❖ A Depletion Allowance for land wells.
- ❖ Deductions were also permitted for exploration expenditure and intangible drilling and development costs, with the expenditure capitalized and eligible as an allowance in computing PPT.

The SPT was designed to maximize revenues from the high oil prices occurring in late 1970's. The SPT was initially set at 60 per cent for marine

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<sup>21</sup> Applicable to profits of branches remitted abroad

<sup>22</sup> The Petroleum Allowance now applied to the first two million barrels of crude oil production per field per year only. In addition, a Royalty Allowance of 100 per cent of royalties paid was introduced. This was deductible from chargeable income in computing the SPT

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operations and 35 per cent for land operations. Allowances deductible in computing the SPT included:

- ❖ A Marine Production Allowance, with rates dependent on oil production.
- ❖ An Incremental Investment Allowance of 100 per cent of tangible development costs for marine wells, later amended to an Investment Allowance of 43 per cent of direct intangible and tangible drilling costs.
- ❖ An allowance equivalent to 140 per cent of new capital expenditure for enhanced oil recovery on land to be charged in the year of acquisition.
- ❖ An Exploration Allowance amounting to 150 per cent of direct exploration costs.

### **2.2.2 Fiscal Regime 1998-1991**

After the collapse of oil prices in 1986, there were widespread calls for relief from the burden of the prevailing tax legislation. As a result amendments were made to the petroleum taxation system in 1988 to hopefully mitigate the decline in crude oil output, increase new exploration and production,<sup>23</sup> and preserve the existing revenue base. The legislation of 1988 also introduced the concepts of Base Crude Oil<sup>24</sup> and Additional Crude Oil. Base crude oil attracted SPT rates of 55 per cent for marine operations and 15 per cent for land operations, while additional crude oil attracted rates of 20 per cent and 5 per cent in marine and land provinces, respectively.<sup>25</sup> In addition, withholding taxes, royalties from crude oil production and the Petroleum Production Levy were also relevant.

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<sup>23</sup> Including heavy oil production and secondary and enhanced oil recovery.

<sup>24</sup> Base crude oil simply refers to expected production levels while additional oil was incremental.

<sup>25</sup> The distinction between base oil and additional oil ended on December 31, 1991

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The 1988 legislation also made provisions in order that the relevant SPT rates could be applied, as such gross income from land operations were separated from gross income from marine operations. New allowances encouraging the development of heavy oil reserves (oil of 18<sup>o</sup> API (American Petroleum Institute) or lower) and workover activities were also introduced.

The hope that the 1988 revisions would stimulate activity in the sector however did not materialize for a number of reasons. Among the more important reasons being firstly, the high level of government bureaucracy and inflexibility of the license terms offered to foreign concerns. Secondly, the legislation sought to preserve existing levels of petroleum revenue through the heavy taxation of base oil meant that most producing companies were unable to generate a sufficiently large surplus, since most revenues earned by producing companies were paid in taxes. Thirdly, the local petroleum sector was undergoing significant structural change a.k.a. moving from oil to natural gas diversification in production. In the absence of separate natural gas legislation, the petroleum tax regime had to acknowledge this new reality until such time as natural gas legislation came into force.

In reality, increased activity in oil exploration and development is largely a function of the crude oil price and market and this is primarily why the several amendments (which includes the several incentives and allowances etc.) to the petroleum fiscal regime did not stimulate the sector as was envisaged. In the 1970's buoyant crude oil prices led to increased activity in the oil exploration and development sector, however in the 1980's when the

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oil price collapsed activity in the sector waned considerably, hence the need by the government to amend the petroleum laws to enhance activity in the sector. The amendments did not work primarily because the oil price was too low to justify investments. Failure to recognize this led to a number of the changes mentioned above.

### 2.2.3 Fiscal Regime 1992 to the Present

Since the 1988 revisions did not stimulate activity in the sector, amendments to the petroleum tax were recommended. These came in the form of three Bills passed in Parliament in 1992 seeking to amend the petroleum tax regime: -

- ❖ The Petroleum Taxes Act<sup>26</sup>
- ❖ The Petroleum Production Levy and Subsidy Act<sup>27</sup>
- ❖ The Income Tax (In Aid of Industry)<sup>28</sup>

The Petroleum Taxes (Amendment) Act amends several provisions of the Petroleum Taxes Act, and represents the most significant change to the legislation since 1981. The method of computing the SPT reflects the realized value of crude oil produced, while all distinctions between crude oil, base crude oil and additional crude oil were removed. SPT is now charged on gross income from crude oil, and not on gross income from base oil and additional oil, as was the case prior to January 1, 1992.

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<sup>26</sup> The Petroleum Taxes (Amendment) Act, 1992  
(Act No. 15 of 1992)

<sup>27</sup> The Petroleum Production Levy and Subsidy Act, 1992  
(Act No. 16 of 1992)

<sup>28</sup> The Income Tax (In Aid of Industry) Act, 1992  
(Act No. 17 of 1992)

Several allowances were also now granted in calculating the SPT. Of these allowances the most important are listed below: -

- ❖ An allowance equal to 50 per cent of the geological and geophysical costs incurred in petroleum operations was implemented. This allowance is deductible from gross income for the calculation of SPT.
- ❖ Exploration allowance has also been reduced from 150 per cent of the direct cost of drilling exploration wells to 100 per cent.
- ❖ Measures were instituted for the deduction of royalty, including overriding royalty from gross income.
- ❖ An allowance of 100 per cent of capital expenditure incurred in the drilling of wells and in the acquisition of plant and machinery for use in marine thermal recovery for heavy oil (crude oil of 18° API or lower) is now deductible.
- ❖ An investment allowance amounting to 40 per cent of direct intangible drilling costs (excluding dry-hole and qualifying sidetrack expenditure) and 40 per cent of tangible costs incurred in development activity in both land and marine areas is now permitted. Under the old legislation, the investment allowance was 43 per cent, and applicable only to marine areas.
- ❖ In the legislation that existed prior to January 1, 1992, provision was made for a deduction of 140 per cent of capital expenditure incurred in the drilling of wells and the acquisition of plant and machinery for use in enhanced crude oil recovery on land. The deduction has now been reduced to 100 per cent of such expenditure, and is deductible from gross income in computing SPT. The computation of SPT is now carried out separately in respect of land and marine operations.

For marine operations the provisions for these schedules are shown in table 5 below. It depicts a sliding scale rate of tax based on the price of crude oil

and whether it is land or marine based crude oil. For example, when the price of crude is less than US \$ 13.00 per barrel no taxes are paid, however when the price increases to US \$14.00 per barrel production from the marine areas exacts a tax rate of 6 per cent.

Table 7 - S P T Rates

| PRICE (US\$/bbl)<br>Between | RATE (%) |     |      |     |
|-----------------------------|----------|-----|------|-----|
|                             | MARINE   |     | LAND |     |
|                             | 'A'      | 'B' | 'C'  | 'D' |
| \$ 0.00 and \$13.00         | 0        | 0   | 0    | 0   |
| \$13.01 and \$14.00         | 6        | 6   | 0    | 0   |
| \$14.01 and \$15.00         | 9        | 8   | 2    | 2   |
| \$15.01 and \$16.00         | 12       | 10  | 5    | 3   |
| \$16.01 and \$17.00         | 15       | 10  | 8    | 3   |
| \$17.01 and \$18.00         | 18       | 13  | 11   | 4   |
| \$18.01 and \$19.00         | 21       | 13  | 14   | 4   |
| \$19.01 and \$20.00         | 23       | 15  | 16   | 5   |
| \$20.01 and \$21.00         | 25       | 15  | 18   | 5   |
| \$21.01 and \$22.50         | 26       | 18  | 19   | 5   |
| \$22.51 and \$24.00         | 27       | 18  | 20   | 6   |
| \$24.01 and \$25.50         | 28       | 20  | 21   | 6   |
| \$25.51 and \$27.00         | 29       | 20  | 22   | 6   |

There have also been changes with respect to the allowance deductible from chargeable income in computing the PPT. The workover allowance permitted for the purpose of calculating petroleum profits tax (PPT) has been reduced to 100 per cent of expenditure incurred on workovers, maintenance and repairs on completed wells and sidetracks.<sup>29</sup> The heavy oil allowance previously applicable in the computation of taxable profits in

<sup>29</sup> Previously, the workover allowance comprised 150 per cent of expenditure on workovers, maintenance or repair works, including recompletions on completed wells



assessing PPT for marine operations has now been extended to include capital expenditure on heavy oil projects on land.

The Petroleum Production Levy and Subsidy Act changed the method of computing the petroleum production levy in that the petroleum production levy is calculated as the lower value of three (3) per cent of gross income from crude oil production. Previously the levy was calculated on a monthly basis for each firm using a stated formula.

The Income Tax Act brought new allowances for tangible and intangible costs for production companies. If expenditure on plant and machinery is incurred, an initial allowance and a first year allowance of twenty (20) per cent each of the expense shall be granted in the financial year in which the expense was incurred. In the case of expenditures incurred as above, producers shall be allowed an additional twenty (20) per cent deduction for each of the five years following the financial year of the initial investment.

#### 2.2.4 The Fiscal Regime - 1992 and Beyond.

Since 1992 there have been no changes to the petroleum regime for crude oil nor have there been any separate natural gas regime or legislation for that matter. There has been however, a surge of activity in offshore exploration, drilling and production. In fact since 1993 the Ministry of Energy has awarded several contracts for exploration in new acreages both off the South East Coast and the North East Coast. While it is useful to recognize that the amendments to the petroleum regime in 1992 were partially responsible for the increase in activity over the past decade, a more useful explanation would be that natural gas was becoming the fuel of choice internationally. In fact, there was a new natural gas thrust and new natural

gas markets in the form of additional petrochemical plants and new LNG businesses.

Moreover, many of the companies that entered the market came specifically to explore for natural gas. Two examples are British Gas and Enron. Since 1997, (as mentioned previously) natural gas production has surpassed that of crude oil in barrels of oil equivalent. The structure of production (this includes natural gas, gas-based petrochemicals and LNG) has changed but the fiscal regime has yet to depict this change.<sup>30</sup>

### 2.5 Fiscal Incentives for Natural Gas: The Natural Gas Era

Currently, most of the upstream oil and gas producing companies (these would include BP/Amoco, BG etc.) operate under exploration and production (E&P) licenses. The fiscal regime for these companies consist mainly of a royalty,<sup>31</sup> a 50% petroleum profit tax (PPT)<sup>32</sup>, a sliding scale supplemental petroleum tax (SPT)<sup>33</sup>, a 5 % unemployment levy on the base of the profit tax, and a production levy of up to 3% of gross income. The fiscal regime for the downstream sector (this would include the Atlantic LNG, the petrochemical (gas-based) sector and the NGC) is a corporate income tax of 35%. Trinidad and Tobago also offers numerous incentives such as tax holidays, relief from withholding tax on dividend remittances, exemption from VAT, import duty concessions and accelerated recovery of capital costs.

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<sup>30</sup> Ved Ghandi, in *Tax Reform in the Caribbean*, edited by Dr. Karl Theodore.

<sup>31</sup> A royalty is a tax levied on crude oil production or natural gas production. In the case of crude oil and gas (depending on the field) it is usually between 12.5 per cent to 15 per cent. The majority of natural gas is produced by BP who has favorable contracts that allows them to pay (for natural gas) it TT1.5 cents for gas used domestically and 2 cents (or TT two cents) per thousand cubic feet.

<sup>32</sup> A PPT is a tax on profits

<sup>33</sup> The SPT is a sliding scale tax based on the realized value of crude oil and natural gas. Currently, there is no SPT charged on natural gas in Trinidad.

**Table 8**  
**Incentives Granted to Companies in the Energy Sector**

| Company Name                                     | Products Manufactured  | Incentives Granted  | Effective Date    | Status       |
|--|--|---|-------------------|--------------|
| Phoenix Park Gas Processors Limited              | Propane, butane and natural gasoline                           | <ul style="list-style-type: none"> <li>* Exemption from VAT</li> <li>* Five (5) year corporate tax holiday</li> <li>* Import duty concessions</li> </ul>  | June 01, 1991     | In operation |
| Caribbean Ispat Limited                          | Direct reduced iron pellets, steel billets and steel wire rods | <ul style="list-style-type: none"> <li>* Exemption from VAT</li> <li>* Import duty concession for a period of seven (7) years</li> </ul>  | January 01, 1993  | In operation |
| Caribbean Methanol Co. Limited                   | Methanol   | <ul style="list-style-type: none"> <li>* Exemption from VAT</li> <li>* Five (5) year corporate tax holiday</li> <li>* Import duty concessions</li> <li>* Loss-offset</li> </ul>   | July 01, 1993     | In operation |
| Trinidad and Tobago Methanol Company Ltd. 1 & 11 | Methanol   | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* Five (5) year corporate tax holiday</li> <li>* Exemption from Stamp Duty on items for the construction of the plant.</li> <li>* import duty concessions</li> <li>* Loss-offset</li> </ul> | March 10, 1996    | In operation |
| Atlantic LNG CO. of Trinidad and Tobago          | Liquefied natural gas and a stream of natural gas liquids      | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* Ten (10) year corporation tax holiday</li> <li>* import duty concessions</li> <li>* Relief from withholding tax.</li> </ul>   | December 01, 1999 | In operation |
| Titan Methanol Company Co. Trinidad              | Methanol   | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* Five (5) year corporation tax holiday</li> <li>* Import duty concessions</li> <li>* Relief from withholding tax.</li> </ul>   | August 31, 1998   | In operation |

Incentives Granted to Companies in the Energy Sector  
(continued)

| Company Name                          | Products Manufactured | Incentives Granted  | Effective Date                | Status          |
|---------------------------------------|-----------------------|---|-------------------------------|-----------------|
| Now PCS 03 Plant                      | Anhydrous Ammonia     | <ul style="list-style-type: none"> <li>* Exemption from Vat on Imports</li> <li>* Five (5) year corporation tax holiday</li> <li>* Import duty concessions</li> <li>* Loss offset</li> </ul>                  | February 02, 1996             | In operation    |
| Now PCS 04 Plant                      | Anhydrous Ammonia     | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* Five year corporation tax holiday</li> <li>* Import duty concessions</li> <li>* Relief from withholding tax</li> </ul>      | April 30, 1998                | In operation    |
| Methanol IV                           | Methanol              | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* Five (5) year corporate tax holiday</li> <li>* Import duty concessions</li> </ul>   | April 01, 1998                | In operation    |
| Cleveland Cliffs & Associates Limited | HBI                   | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* Five (5) year corporate tax holiday</li> <li>* import duty concessions</li> <li>* Loss-offset</li> </ul>                    | June 01, 1998                 | In operation    |
| Farmland Mississippi Ltd.             | Anhydrous Ammonia     | <ul style="list-style-type: none"> <li>• Exemption from VAT on imports</li> <li>• Seven (7) year corporation tax holiday</li> <li>• Import duty concessions</li> <li>• Relief from withholding tax</li> </ul> | September, 01 1998            | In operation.   |
| Atlantic LNG 11 & 111                 | LNG                   | <ul style="list-style-type: none"> <li>* Exemption from VAT on imports</li> <li>* import duty concessions</li> <li>* Relief from withholding tax.</li> </ul>  | August 2002 and November 2003 | In construction |
| CNC                                   | ammonia               | <ul style="list-style-type: none"> <li>* Exemption from Vat on Imports</li> <li>* Five (5) year corporation tax holiday</li> <li>* Import duty concessions</li> <li>* Loss offset</li> </ul>                  | 2003                          | In construction |

Source: Central Bank of Trinidad and Tobago.

## 2.6 The Critical Issues and Challenges Facing the Natural Gas Sector.

The natural sector can be divided into two sub-sectors, the upstream and the downstream sector. The upstream sector consists of the (main) producers of natural gas namely British Petroleum, British Gas and Enron. With each sub-sector the government faces key critical issues and risks. Unless resolved, revenues from the sector will remain minimal and the goal of economic diversification envisioned remains an illusion. The key problems are that: -

Firstly, none of these companies pay any SPT on natural gas produced. Although the SPT is charged on crude oil revenues only, numerous allowances are granted (such as exploration allowances, a royalty allowances, investment allowances, production discounts etc.) which applies both to oil and gas investments. Hence, the SPT allowances are claimed in respect of gas development expenditures. As a result, the BP's cost of production is considerably lower allowing it to undercut new producers who might be willing to increase its payments to government.

Secondly, gas production is expected to increase by about 40 per cent by the year 2004 and, since BP holds the majority of the licenses, the production will be increasing but the revenues from the SPT will remain nil.

Thirdly, the majority of the gas produced (75 %) is produced by BP who has favorable contracts that allows them to pay (for natural gas) royalty rates of TT 1.5 cents for gas used domestically, and 2 cents per thousand cubic feet for gas used for export. In fact the royalty on gas is less than 0.30 % of the value of the gas. Not only does this raise the question of low government revenues, but it also distorts investment in favor of the BP who is in fact the holder of the majority of the E&P licenses. (Preliminary estimates suggest

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that since 1998 BP paid an average of TT \$6.02 million in royalties for natural gas per year). At current royalty rates this figure will increase by a mere TT \$2.0 million when all the current plants are completed. Additionally, the other gas producers pay royalty rates of between 12.5 to 15 cents per thousand cubic feet. However their gas production is much lower than that of BP.

On the downstream side, producers of petrochemicals, iron and steel and liquefied natural gas are included. Many critical issues arise: -

Firstly, the tax incentives for these downstream companies (as shown in Table 6) have been very generous. While these companies are agents that should translate natural gas production into national income, most do not as yet pay corporation taxes. Moreover, some of these companies have been able to expand their productive base, while simultaneously negotiating favorable gas price contracts with the NGC. Thus, they are not a significant source of revenue for the government. Furthermore, even when their tax holiday period is over, it is highly doubtful that they will be paying any significant taxes. Today local petrochemical companies pay very little taxes even when their tax holiday periods are over, and because internationally petrochemical companies have never been a significant source of government revenues.<sup>34</sup>

Secondly, Trinidad and Tobago has achieved significant milestones with regards to liquefied natural gas. By 2003, Trinidad will become the fifth largest exporter of LNG in the world. The critical issue or risk here is one of *thin capitalization*, which would likely occur if the company replaces equity with debt, a point which also applies to the petrochemical plants. For tax purposes debt is more efficient in that interest is paid out of profits before-

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<sup>34</sup> This information was obtained from an analysis of financial statements submitted by the companies.

taxes and therefore serves to reduce the tax liability whereas dividends may only be paid out of profits after taxes and therefore subject to both the regular corporation withholding tax. Like the petrochemical plants, the expansion is not likely to be a significant source of revenue for the state. This is an extremely serious issue and one that needs immediate attention. Internationally government take from energy companies has declined and will continue to decline in the near future.<sup>35</sup>

Another significant issue with regards to the liquefied natural gas sector is the issue of *transfer pricing*. In this case, the first plant has a 10-year tax holiday while the expansion has no tax holiday. There are a quite a few serious transfer-pricing issues to resolve in order that there is little erosion of the tax base of the country by income shifting. In fact there are three potential transfer-pricing risks which relate to trains 2 and 3. The first is the allocation of overhead costs; the second is the use by trains 2 and 3 of common facilities built by train 1, which will mean income shifting to the tax holiday train 1 facility. (This may result in a lowering of the taxable base).

The third and likely most critical issue is the one of profit gravitating from British Gas extraction to British Gas shipping. By overcharging for shipping<sup>36</sup> the profits from extraction would be severely reduced to the detriment of the state Treasury and the profits from shipping LNG would be increased.<sup>37</sup> Thus BG can set a high price for shipping to reduce the price for gas in Trinidad which can reduce the payments of the petroleum profit tax significantly.

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<sup>35</sup> This from international petrochemical consultant Dr. Pedro Van Meurs.

<sup>36</sup> BG will lease ships to Cabot which will transport its LNG to the US, if BG overcharges for the lease of the LNG tankers, Cabot can overcharge for transportation which will result in a lower wellhead price for natural gas supplied by BG).

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## 2.7 The Challenge

The challenge of the authorities is either to amend the petroleum regime to reflect the new gas production structure of the economy by introducing separate natural gas legislation. While it is true that in times of high gas prices gas revenues increase temporarily, it is also true that in times of low gas prices, revenues (mainly obtained from the National Gas Company through the sale of gas to the downstream producers) from this sector are low. A more stable stream of revenues can only be attained if long-term measures are put in place to capture revenues from the upstream sector. To capture this stream of revenues however a regime must be put in place, thus a list of considerations for a proposed gas regime are as follows: -

- ❖ The royalty on natural gas should be increased from TT 1.5 cents (this applies to BP and its contracts) to a more internationally acceptable rate which reflects the gross value of the natural gas. It is common for a foreign investor to initially enjoy favorable terms when undertaking risky investments in a country, it is highly unusual for these highly favorable terms to be extended for all subsequent licenses. Since the licenses cannot be changed less the companies think the state is reneging on contracts, the state can legally amend the Petroleum Act to deal with this discrepancy.

There are numerous types of royalties that may be considered instead of the fixed payment of unit of production royalty, which currently prevails in Trinidad and Tobago. One can institute the system of a fixed percentage of the gas production, a sliding scale of royalty based on the level of field

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<sup>37</sup> Keeping in mind that these ships are registered in an tax haven.



production (somewhat like the crude oil's scale), or a sliding scale based on the level of production and well price. (~~Fixed percentage royalties around the world range from 1.25 per cent in Papua New Guinea to 25 per cent in the US).~~ Given the stage and state of the Trinidad and Tobago gas industry, royalties for BP should at least be increased to levels currently paid by BG and Enron i.e. 12 - 15 per cent or if levied on production should be at least TT 60 cents per thousand cubic feet rather than two cents.

- ❖ With regards to the *SPT*, there is an urgent need for amendments. In fact there is no economic reason why Trinidad and Tobago does not have SPT on natural gas production. The SPT must be extended to natural gas production but at rates lower than that of oil production. In addition, the various allowances (not the royalties) should be retracted and the SPT rates reduced by an equivalent amount that would make the reduction revenue neutral. Since the SPT has a two-fold function, a revenue function and incentive to investment function, thus when oil prices (gas prices if extended to gas) are high the state benefits while the opposite happens when oil prices are low.

The government should seek to change these spikes and slumps in revenues by amending the rate schedules of the SPT. Added to this when prices are high the companies increase their CAPEX while simultaneously using the various allowances to mitigate against tax liability.

Since there are issues with regards to the use of the term SPT, the author proposes that this be called a Supplemental Gas Tax or SGT. Internationally, governments have instituted several additional “ special

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taxes” to deal with a number of petroleum issues that arise either because petroleum prices rise or productions increased or any combination of the two. Some of the more popular ones are: a windfall profit tax of 70 per cent in Malaysia; a petroleum revenue tax of 50 per cent in the UK, a hydrocarbon tax of 50 percent in Norway;<sup>38</sup> and an sliding scale SPT was instituted in Trinidad to treat with the oil price fluctuations.

- ❖ There is often a debate as to the future role of the NGC and the real price risks it takes acting as an intermediary. In simple terms the NGC buys gas at a fixed price and sells at a flexible price). As such, the NGC should negotiate different arrangements with gas suppliers, which reflect the netback of market prices of final products. This in effect would make both side of the equation flexible. Secondly, and perhaps more importantly, the NGC should not be allowed to offer pass-through clauses in respect of changes in government take when signing future gas purchase contracts.
  
- ❖ It is recommended that no new tax holidays be given for investments in the petrochemical sector. In fact, global evidence suggests that income tax holidays and exemptions are inefficient ways to promote investment in new business.
  
- ❖ With regards to the issue of thin capitalization of the liquefied natural gas expansion, the government should seek to ensure that there is a limit to the excessive use of debt financing by the owners of the expansion. The debt-equity ratio should be set at

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<sup>38</sup> These are calculated in the normal form like a corporate income tax but an additional uplift is allowed.

4:1 and the interest rate on any future indebtedness should be at arm's length. This would prove to be one of the most challenging issues for any negotiator to handle.

Since the contracts have already been signed with regards to the LNG expansion the new focus of the government should be to investigate the BG shipping arrangements in order to determine whether the shipping services provided will be priced at arm's length. If it is not, then the cost to the state Treasury from this BG shipping deal will be extremely high.

## 2.8 Conclusion

Historically Trinidad and Tobago always been a producer of primary products, and needless to say this trend continues today. We have moved from sugar to coffee and cocoa, to oil and now natural gas. There have been no significant value added to these primary products and as such we continue to be at the vagaries of the international market. While it is true that we have had benefits from the oil sector, the laws for the natural gas sector have been relatively non-existent. As such the rapid monetization of natural gas have not resulted in diversification of the economy. As such one might be tempted to say that the diversification efforts have failed for the economy continues to be dependent on crude oil revenues.

There is urgent need for a reformation of the gas fiscal regime as well as transparency when dealing with foreign participants in the gas sector. Natural gas is a depletable resource and at the current rates of production could be exhausted in a few decades, with the LNG expansion included and if no new proven reserves is announced. While the author understands that with new technology it is becoming more feasible to access additional

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reserves, the fact remains that the resources are finite. So even though BP has claimed that there are about 70 trillion cubic feet of probable reserves in the ground and that there should be little worry about depletion, it is ironic that they announce that priority given to additional LNG trains rather than the existing gas be dedicated to additional ammonia, methanol, an ethylene or gas to liquids plant.

With significant reform of the fiscal regimes there is the possibility of using the captured gas revenues as a base for economic development into higher valued projects, rather than primary products such as ammonia and methanol projects and LNG. Furthermore, it is useful to use the benefits from these as a way to develop human capacity and human development. Local economists often lament that Trinidad's economic development efforts have little to do with the energy sector, it is mindful however to remember that countries that are considered developed once used their natural resources as a launching pad for economic development, for example, the case of dairy farming in the Netherlands.

In fact the development process started with agrarian societies having an agricultural surplus in the first place. This, of course freed up people to develop capabilities in science, technology, arts etc. The key to sustained economic development however would probably lie a great deal with the agriculture sector. Unlike the energy sector, which employs very little, this sector, will employ significant people with incomes that could generate demand. The key however would be to move from simply growing and exports primary products to processing and manufacturing. It is known that this sector has been grossly neglected where fiscal incentives are concerned, but it is time that it becomes an area of importance.

Finally, if the proposed fiscal changes are considered the budget of Trinidad and Tobago will perhaps in future contain a line "~~Revenues from Natural Gas~~" and should it be higher than "Revenues from Crude Oil" one would be able to say that Trinidad and Tobago has successfully attained economic diversification.

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