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Oil and Gas, From Boom to Bust and Back: The Trinidad Experience with the Resource Curse

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INTRODUCTION

The purpose of this inaugural working paper series is to examine the socio-economic and political implications of petroleum extraction in Guyana. On its own, the prospect of petroleum extraction is worthy of extensive academic examination, due to its promise of economic prosperity, its environmental ramifications and the political disruption within which its arrival is ushered. These issues are compounded when played out in a society such as Guyana's characterized by stark racial and ethnic cleavages, age-old political tensions and entrenched socio-economic problems. Further to this, is the question of external influence in the form of supranational governmental agencies, foreign financial corporations upon the process of petroleum industrialisation in this developing state.

In recognition of the complex nature of this topic, the authors in this series explore the question of a petroleum Industry in Guyana from a sociological, political and economic perspective. These papers not only seek to make academic inferences but also to provide recommendations and suggestions as to how the current and potential issues can be approached to prevent political and socio-economic failure in Guyana

Oil and Gas, From Boom to Bust and Back: The Trinidad Experience with the Resource Curse

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ABSTRACT

For more than a century, Trinidad and Tobago (TT) enjoyed the fruits of plenty and the suffering of privation trapped in an erratic oil and gas industry that was as alluring in its temptations and as unpredictable in its promise of unearned wealth. The twin-island state of Trinidad and Tobago (TT,) independent since 1962, became the first and only fossil (petroleum and gas) dominated state in the entire insular Carib. In this essay, we shall follow TT's journey from its relatively low well-being at independence in 1962, to the first oil boom (1973-1982), then the bust (1982 to 1992) and then again, another boom (1999 to 2008). Trinidad had succumbed to the mythical resource curse and in its failure to diversify its economy contracted the "Dutch disease" with the dysfunction of an underperforming agricultural sector. As an explanation, the "resource curse" and "Dutch Disease "perspectives are dealt with briefly in the next section after which we proceed in presenting the facts that describe the Trinidad experience with its oil and gas industries.

Introduction

For more than a century, Trinidad and Tobago (TT) enjoyed the fruits of plenty and the suffering of privation trapped in an erratic oil and gas industry that was as alluring in its temptations and as unpredictable in its promise of unearned wealth. The twin-island state of Trinidad and Tobago (TT,) independent since 1962, became the first and only fossil (petroleum and gas) dominated state in the entire insular Carib. Although petroleum was first discovered in 1857, subsequent commercial exploration and production did not commence until 1907 and this lasted another hundred years. A small country with just over a million population, Trinidad had about 0.5% of the world's energy resources, and at the height of its oil production in 1978, produced some 278,000 bpd and by 2008 produced 5% of the world's liquefied natural gas. Simultaneously, it became the world's top methanol and ammonia producer. During its century of oil and gas exploitation, TT enjoyed a sudden initial boom in revenues from 1973 to 1982 followed as suddenly by a plummeting fall into a period of trauma (1982-1992) when oil prices collapsed. Recovery and yet another boom eventuated from 1999 to 2008, then in a maddening skelter of fortunes and misfortune, other collapses followed.

In a way, the trek from the first oil boom to depression and recovery can be conceived metaphorically and biblically as entry into the Garden of Eden that ended in a Fall from Grace triggered by sinful excesses and waste, literally a curse, that accompanied the forced expulsion and exit from the illusions of unearned oil-generated plenty. Exit likened to a form of Exile and the Suffering, was the penalty for the sin of reckless exuberance and irresponsible waste. Recovery was like Redemption into a new Providence of liquefied gas with revenues aplenty.

In this essay, we shall follow TT's journey from its relatively low wellbeing at independence in 1962, to the first oil boom (1973-1982), then the bust (1982 to 1992) and then again, another boom (1999 to 2008). Trinidad had succumbed to the mythical resource curse and in its failure to diversify its economy contracted the "Dutch disease" with the dysfunction of an underperforming agricultural sector. As an explanation, the "resource curse" and "Dutch Disease "perspectives are dealt with briefly in the next section after which we proceed in presenting the facts that describe the Trinidad experience with its oil and gas industries.

Resource Curse/Dutch Disease Perspective

The resource curse prism addresses the problem of inferior economic performance and political instability that seem to follow the cyclical ups and downs of oil boom and busts in those countries that have been blessed by sudden discoveries of abundant fossil fuels and other forms of wealth. According to its chief proponents (Sachs and Warner 1999; Auty 2001), this framework argues, based on patterns found between 1970 and 1990 in nearly all of 95 empirical case studies (except Malaysia and Mauritius) representing dependent Third World countries, that: a. distortion in the development of the economy follows the mineral or commodity boom in a manner that leaves other sectors such as agriculture and manufacturing shrunk, neglected, marginalised or underdeveloped. That is, it is argued that the demands from the newly endowed and lucrative oil/mineral sector draw away from the deployment of capital and labor from other sectors enfeebling them.

b. Accompanying this abundance of new revenues, financial mismanagement and corruption ensue, as the government engages in massive expenditure on infrastructure, utilities, and more tellingly, in conspicuous construction of "white elephant" projects. Expenditures are also made in the form of subsidies and make-work programs, events that would become difficult to reverse in times of stagnation and decline that inevitably follow the boom.

c. Inflation and higher wages follow that do not correspond to productivity. In effect, rash, undisciplined and uncontrolled government expenditures decouple the relationship between work and reward.

d. Wasteful expenditures less for investment and more for immediate consumption and gratification, are followed by an appreciation of the currency which exacerbates the deterioration in the performance and competitiveness of the lagging sectors. This is often referred to as "the Dutch Disease" or "de-industrialisation" after a similar pattern in the Netherlands when a gas boom eventuated in practically crippling the manufacturing sector (Corden and Neary 1982).

e. If the pattern persists then the other non-oil/mineral sectors of the economy, typically agriculture and manufacturing may be so debilitated that not only is a dual economy created but a veritable mono-economy dominated by one product eventuates.

Analysts Beblawi and Luciana referred to this phenomenon as the creation of a "rentier state", a veritable enclave, where the government receives the bulk of its revenues from one source and everything else follows in the crippling of other sectors, rise in prices, government expenditures in wasteful projects, subsidies and make-work programs, imports spiralling, and depletion of foreign exchange, etc. (Beblawi and Luciana 1987). Apart from negative economic consequences, there are also negative social and political consequences. Specifically, a distributive crisis may occur as partisan and factional conflicts arise when different interests compete for "a fair share" or control over the wealth. Inequalities become wider and insidious, both between sectors and individual workers' wages, where the rewards of workers in the boom sector are privileged, provoking unrest and organised discontent that may spill over into disorder and systemic instability. The wealth may also attract external bidders for the wealth triggering another conflict. Thus, conflicts both internal and external may eventuate destabilizing the country blessed with oil or mineral wealth. Weak governments are thus created from these conflicts and further, the additional wealth tends to create the conditions for corruption. In this vein, it is also argued that when domestic decision-makers discover that they are not accountable to the general population for the wealth; they, in turn, become unresponsive to popular will and thus this undermines democracy and promotes authoritarianism.

The “resource curse” and Dutch disease thesis is however hotly contested by other researchers who empirically examined a different set of countries like Chile, Botswana, Canada, Finland, the USA, and Sweden, and came to the opposite conclusion (Davis 1995; Maddison 1994; Maxwell 2004)). They have argued that there was nothing inevitable about the decline of economic growth and the instigation of political instability when the economies of these oil/mineral-rich states are properly managed. In effect, part of the resource curse/ Dutch Disease is traced to financial mismanagement and inappropriate economic planning and short-sighted strategy. Thus, in challenging the resource curse/ Dutch Disease hypothesis, they had pointed to other causes of decline in governance and rise of social and political tensions in those developing countries which have been blessed by sudden oil/mineral wealth. They suggest institutional and structural factors that account for the collapse and crisis following the boom. Yet, despite these challenges to the “resource curse” argument, it has attained the status of an uncritically accepted truth. The “resource curse”/Dutch Disease hypothesis, as well as the counterarguments, has generated a repertoire of solutions and recommendations, mainly in the areas of institutional engineering and economic diversification. In this essay, we shall examine TT experience with the oil and gas industry and evaluate the resource curse thesis critically.

In the Beginning: The Genesis of Petroleum in Trinidad

For more than a century, Trinidad and Tobago (TT), embarked on a journey into tapping hydrocarbon fossil to fuel its development. While the first drilling commenced as early as 1857, it was not until 1910 and immediately thereafter when two events triggered a large-scale production of petroleum. First, in anticipation of switching from coal to oil, the British Navy established an innovative pioneering company, the Trinidad Oilfields Ltd, which drilled, refined and exported oil; by 1938, Trinidad supplied some 38% of the British Empire's oil need (Mulchansingh 1971:73-4)). Second, by 1913, two new companies, United British Oilfields (UBOT) and Trinidad Leaseholds (TLL) a subsidiary of Shell, started to drill and initiated the commercialisation of oil so that by 1919 about 1.9 million barrels were produced annually (Brereton p.203 Ibid). WWI had become the main consumer of this oil. An oil refinery was constructed at Point Fortin followed by others; refining had gotten underway with TLL tapping into the Forest Reserve oilfields (which would become so lucrative that it would over the next 100 years yield over 500 million barrels of oil) and built a refinery and a 26-mile pipeline to Pointe-a-Pierre. Other companies also were established including Apex Oilfields operating in Fyzabad, and Kern Oilfields operating in Guapo, and five refineries were built for refining some 60% of the crude produced locally. Oil production was now dominated by all these companies with crude production of 5.4 million barrels in 1927 rising to 20 million in 1939 (Ibid). By the end of WWI, the oil industry was well established (Ibid).

Thereafter, for five subsequent decades, oil exploration and production proceeded with growing strength, especially playing a critical role in support of Allied war effort during

WWII. All the oil production was land-based during this time. Aviation fuel was needed during the war effort and a new specialised plant was built for this purpose producing about 10,000 bpd or 20 million barrels by 1941 for the Royal Air Force. New refineries were also built at Pointe-a-Pierre and soon oil was imported from the Middle East for refining in TT. By the beginning of WWII, oil had, in fact, come to dominate TT's economy contributing revenues of 10% in 1919 and 50% in 1932 and about 80% of exports while displacing agriculture. Employment in the oil industry had grown from 801 persons in 1912 to 8,280 in 1925, to 8,000 in 1939 to 15,000 in 1944 (Ibid). Workers left the sugar industry to seek employment in the oil sector, but especially to the American military bases which employed about 30,000 out of a total country-wide workforce of 200,000. (Ibid). Truckloads of workers from the sugar estates to the oil fields resulted in the loss of 25,000 workers in sugar industry so that by 1939 this led to labor shortages in a declining sugar industry (from 131,609 tons in 1941 to 74,000 tons by 1945) (Ibid). By 1944, sugar had practically collapsed not to be again rehabilitated until after the war. All of this was a taste of the oil curse and the Dutch disease on a smaller scale to what would occur four decades later after the first oil boom in 1973-74. Oil had become so relatively strong in a colonial economy where most employment historically was generated by sugar and cocoa. The Dutch disease had registered forcefully in the systematic neglect of agriculture.

By the end of WWII, oil production continued to grow, producing some 55 million barrels by 1966 and from 1945 to 1962, oil accounted for 80% of export revenues and 41.5% of all government revenues in a 50-50 revenue-sharing arrangement with the oil companies (Brereton p. 216). This was clearly a mini boom with the real thing coming about a decade later (1973-74). Ownership of the oil companies, nearly all foreign, changed: BP had absorbed Kern and Apex in 1961; Shell bought out UBOT, and in 1956

Texaco arrived. In effect, the main oil companies that emerged and bestrode the economy were Texaco, Shell and BP. They would be joined by AMOCO later.

Production would shift from land to marine exploration and exploitation. This was underscored in the middle fifties by new oil discoveries and by the entry in the local commercial arena of a major oil actor, Texaco, the first American company. It purchased TLL for $310 million as well as a few other companies including the refinery owned by BP and half of Shell and BP offshore assets becoming the largest oil company in TT. Texaco then upgraded old technologies becoming an innovative significant player in the incipient oil scene. By 1965, Texaco was producing 70,000 bpd and refining 345,0000 bpd. In 1954, the Soldado Field was discovered and by 1961 it became the largest oil field in TT surpassing Forest Reserve. Soldado and other marine areas would be exploited by a consortium called TRINMAR constituted of BP, Texaco and Shell investors. By 1965, TRINMAR produced 32 % of TT's oil from 250 marine wells and by 1966 some 47,500 bpd.

Revenues from oil export became sufficiently strong that the industry although only employing about 5% of the workforce surpassed decisively the contribution of the entire agricultural sector to GNP. The agricultural sector would take a huge hit from the growth of oil production; its value decreased from TT$96m in 1970 to $83m in 1982. Employment in the agricultural sector also fell from 85,000 in 1970 to half by 1982 (Pollard p.820) mainly due to the attraction of the oil industry. The agricultural sector had deteriorated so much to half its size in 1970 (Pollard p.821). The Dutch disease was rampant in the deterioration of the agricultural sector. In effect, Trinidad which had only just attained internal self-government in 1956 from Britain had now confirmed the earlier ascendancy of oil in the economy during WWII and by the late 1950s had become unequivocally, a rentier petrostate, an oil-dependent and dominated economy, the only one in the Caribbean.

Stimulated by rising oil production and revenues, TT in the 1950s experienced relatively rapid economic growth, but the next decade in the 1960s witnessed a significant slowdown in the non-oil sector of an ailing economy. Oil exploration and production, however, continued to grow especially when the three major oil companies embarked upon a joint offshore exploration that struck oil in the giant high yielding Soldado I field. However, between 1965 and 1971, the oil-producing activities of the foreign companies, BP (Anglo-Iranian Ltd), Shell and Texaco (followed by Amoco, a reincarnation of Standard Oil, Indiana), fell from 149.6 million barrels in 1966 to 129.2 million in 1971. Recovery would occur in a robust manner when the oil boom period commenced in the 1973 period.

Even though the oil industry had become pre-eminent in the post-WWII period, it was not the sector that grew most dramatically. Professor Bridget Brereton pointed instead to the manufacturing sector, where already during WWII, a number of food processing plants and small industries was established. In this context, however, the larger challenge for TT, moving towards decolonization, was the need to fashion an economic strategy for development that included not only oil and agriculture but manufacturing. This was thought to hold the secret to economic transformation and eventual liberation from persistent poverty. A program titled "Aid to Pioneering Industries" was launched with numerous concessions, bringing by 1963, 99 new industries worth $65 million (Brereton ibid).

However, the task of adopting and implementing a policy of industrialisation fell on the shoulders of the incoming new Prime minister, Eric Williams, who acceded to power in 1956. He espoused a strategy after the Puerto Rican model of import substitution originally adumbrated by Caribbean economist, Arthur Lewis. The model, aiming at capitalising on the abundant supply of cheap labor, focused government expenditures on building infrastructure to attract foreign investment for industrialisation and by so doing absorb the army of unemployed in waiting. Williams launched a series of consecutive development plans starting with the first five-year plan (1958-62). The result from 1956 to 1961, yielded about 35 industries producing some 2,193 jobs; from 1961 to 1968, 7.959 jobs, and from 1968 to 1973, 10,000 jobs (Ryan p.152). Nearly all were foreign firms (80%) mostly American and British. Also, most of these new companies enjoying special tariff protection and numerous other concessions were engaged in final assembly production of imported products.

Overall, after two more five-year plans, the strategy failed in the building a vibrant manufacturing sector with backward linkages into the economy to solve the problem of finding employment for a pool of potentially 100,000 job applicants. Eric Williams himself commented on the Puerto Rican model in which underdeveloped country would pull itself up by its own bootstrap:" …it produces too few jobs, 6,000 and not 35,000 anticipated" (Ryan in EW 2009 p. 357.) By 1970, unemployment had steadily grown and stood at 17%. In effect, after nearly two decades, the industrialisation program labelled "industrialisation by invitation" failed to transform the economy. After this, the People's National Movement (PNM) departed from the Puerto Rican model and begin to tinker in direct state involvement in investing in the production process however gingerly fearful of being dubbed socialist or communist.

While growth in the economy from 1951 to 1961 was very good averaging 8.5%, mainly derived from oil production, by the mid-1965 onwards growth fell especially in oil production. Between 1965 and 1971, oil production fell from 149.6 million barrels in 1966 to 129.2 million in 1971. To counter this downward trend, in 1968 an event occurred allowing TT to become a partner in oil property ownership and production (Renwick). More specifically, BP with its extensive functioning assets in oil production in TT decided to close all its operations and leave TT for better investment opportunities elsewhere. This would have left stranded in unemployment its substantial local workforce. The PNM government fearing the industrial turmoil that would likely ensue decided to purchase the BP assets for US$100 million and in partnership (49.9%) with a small US company called Tesoro, it thus created a new outfit called Trinidad-Tesoro Petroleum Ltd. Tesoro proved to be a very good partner offering critical managerial and technical inputs in making the new company profitable and a significant contributor to oil production. In 1969 TT passed the National Petroleum Act to govern all oil production and exploration. Even, with its increased oil production, the price of oil was still relatively low at about US$3.00 per barrel.

With the deterioration of the economy and high unemployment, between 1970 and 1973, a black consciousness movement took shape. There were some 167 strikes culminating in a train of agitational events that destabilised the PNM government. Prime Minister Williams called new elections for May 1971which was boycotted and as protests persisted by September 1973 Eric Williams decided to resign. It was during this period just a few days after Williams's decision to quit that the Yom Kippur War broke out in the Middle East leading to a confrontation between the oil-producing corporations and the oil-producing countries which in turn saw a dramatic increase in oil prices and a fundamental alteration to the international oil industry. The Arab oil boycott in 1973 ushered in the first oil boom in TT. Williams remained in power during this crisis and while he had himself become more nationalistic decided unlike many OPEC countries not to nationalise, preferring joint ownership.

Boom 1: Garden of Eden 1973-82

It came unexpectedly literally almost out of the Caribbean blue. Even with new oil discoveries and Trinidad's launching into direct ownership of oil assets and production in 1969, no one saw any signs, nor anticipated, that a dramatic shift in oil prices was just around the corner, with a promise to release Trinidad from the depressing jaws of low economic performance in the face of growing militant demands from an impatient black power movement. Then it happened in December 1973 when the conflict between Israel and the Arab states led to an oil blockade and boycott. OPEC, formed in 1960, previously bullied by the oil-producing multinational corporations, suddenly metamorphosed into a militant body that turned the tables on the oil producers and demanded that oil prices be determined by the oil-producing countries and their newly acquired nationalised oil state corporations. Quickly oil prices skyrocketed from a low of $3.50 (US) pb in 1972 (before the geopolitical crisis) quadrupling within one year and steadily rising many times over to $14.58 pb in 1978 and reaching $41.46 pb in 1981. Trinidad passed a new Petroleum Taxes legislation to garner a substantial share of the windfall revenues. Trinidad's oil production mainly constituted of the highly coveted light sweet crude, jumped from 166,000 bpd in 1973 to a high of 229,000 bpd in 1978. This amounted to a growth from 9.3 million barrels in 1972 to 83.8 million barrels (its highest point) in 1978. Revenues grew from $495m (TT) in 1973 to TT$6.6 b in 1982. Foreign exchange reserves grew from US$380 m in 1973 to US$3, 202 b in 1981. Unemployment fell from 21% in 1971 to 8% in 1982. Economic growth averaged 7% annually. Amoco was the largest producer (50%). By 1980 when oil price had peaked, Amoco generated $1,369 b (US) out of TT's total oil revenue of $1,725 (US).

The oil price explosion quickly consumed the attention of the nation diverting its preoccupation from local economic issues, which essentially turned on limited available resources for distribution, to the unfamiliar condition of plenty and the new challenge of how to manage and distribute the new wealth on behalf of the entire population. Eric Williams at one point declared that "money was not a problem". As Trinidad entered the Garden of Eden, will she succumb to the resource curse, to the temptations of the forbidden apple of abundance? Was there a formula for responsible stewardship? First, we shall look briefly at revenues, second expenditures, and then a description of the end of the boom in the recession of 1982.

Revenues. It has been estimated that between 1974 and 1983, Trinidad accumulated $10 billion (US) in revenues (Thomas 1988:279). Government revenues multiplied at an average annual rate of 44% from 1974 to 1980 (Ryan 1988:126). While world prices had fallen in 1975 to 1978, it rose again in 1979 to 1980 to attain an unprecedented $35(US) per barrel. Noteworthy in this context was a different pattern of employment in the oil industry: in 1975, 15,550; 1982, 17,704; and in 1993, 14,124. Between 1965 and 1971, the oil-producing activities were conducted by four dominant foreign companies, BP, Shell, Amoco, and Texaco. Oil production fell from 149.6 million barrels in 1966 to 129.2 million in 1971, but after the boom by 1978 production reached 225,000 bpd and by 1980 oil revenues contributed 42% of GDP or 64% of government revenues. These new bountiful revenues were applied to commence a major industrialisation and diversification program in partnership with the state (Hintzen 1985:116). Revenues from oil export became sufficiently strong that the oil industry, although only employing about 5% of the workforce, surpassed the contribution of the entire agricultural sector to GNP; its value decreased from TT$96m in 1970 to $83m in 1982, while employment in the agricultural sector also fell from 85,000 in 1970 to half by

1982 (Pollard p.820) mainly due to the attraction of the oil industry.

b. **Expenditures**: In the first years following the huge revenue windfall, expenditure was careful and conservative. Expenditures grew over 14 times, from TT$390.1 m in 1970 to TT$5,446.3 m in 1980 increasing in 1970 from 13.15% of GDP to 21.1 % by 1980 (Meighoo p. 70). Between 1974 and 1978, a clear expenditure pattern emerged. Expenditure allocations from the oil revenues spanned a wide assortment of subjects ranging from savings, to new acquisition of assets, to subsidies and to employment. The pattern of expenditures was as follows: i).75% were savings accounts placed in banks abroad in 47 Special Funds for long Term development reaching TT$4,401.8 in 1980; ii) 12% invested domestically in part to offset budgetary deficits; iii). 18% for local consumption; iv. Reserves amounted to US 47million in 1973 to US$1.8billion in 1978.

Much of the early expenditures were aimed at heavy asset acquisitions and investments. Already in 1968, as pointed out earlier, Trinidad had acquired the assets of BP and launched a jointly owned company with Tesoro called Trinidad-Tesoro Petroleum Ltd. In 1973, TT would also acquire the assets of Shell for (TT) $93.6 million. The new entity was called TRINTOC. Included in this acquisition was 50% ownership of the Pointe-a Pierre refinery. This acquisition of Shell's assets signified that TT had now entered oil production as a fully integrated entity engaged in offshore exploration and exploitation. The acquisition also involved the retail gas stations of Shell. Later in 1976, TT would also acquire Texaco's retail marketing operations (but not its other assets until 1985). The combined acquisition of these retail assets was subsumed under a new outfit called the National Petroleum Marketing Company (NP) which became the sole owner of all previously owned Shell, BP and Texaco marketing retail outlets (e.g. gas stations).

Next was the gas industry. In a major shift of strategy aimed at diversification, in view of a forecast that oil reserves were due to expire in about four years, the government decided to exploit its abundant gas reserves which were wasted through flaring and in 1975, a National Gas Company was formed. Gas was strictly used only domestically and was applied to the local generation of electricity through a newly constructed pipeline. Gas was to be used also not only in petrochemicals but in a steel plant as well as an aluminum smelter. Investing in petrochemicals, Trinidad started with ammonia in a joint investment with W.R Grace (49% ownership) in forming TRINGEN I. Another joint investment in ammonia was with Amoco in establishing FERTRIN. Along with these new investments was also a huge outlay in building the Point Lisas Industrial Estate (over TT $6 billion) to house all these new investment projects.

Other acquisitions included the sugar industry company, Caroni Ltd; already jointly owned with TT as the majority owner in 1968, it was bought outright by the government in 1976. On acquisition of this company, the government promptly doubled the salary of all sugar workers. Further, in the light industry sector, the government acquired shares in 35 local companies for (TT)$82 million and extended this to some 66 additional companies by 1980 for (TT)$2 billion. About 40 companies were bought outright for about (TT)$1.67 billion equivalent to one year in oil revenues. These new state-owned companies included outfits that ranged from metals and fertilisers to service companies dealing with financial management, maintenance, real estate, waste disposal etc. (Meighoo p.90).

Faced with strong well organised demands from trade unions and general pressures from the population for a share of the benefits of the oil windfall, the government after 1975 switched some of its expenditures from savings to consumption through subsidies for food, gasoline, public utilities and cement. Hence, subsidies rose from (TT)$264 million to (TT)$760million from 1974 to 1978, and then to (TT)$860 million in 1981. In the sphere of employment, given the high unemployment rate reaching 20%, the state embarked on a public works program that engaged about 50,000 annually or 2.5% of the entire workforce costing about (TT)$110 million annually. New jobs in the government public service were created driving up the numbers from 86,000 to158, 000 or one-third of the total workforce.

As these expenditures piled up from acquisitions, investments, subsidies, and state-sponsored employment programs, TT was now straining for more revenues. Towards the beginning of 1978, the Gulf war between Iran and Iraq, both major oil producers, caused oil prices to spike again bringing a greater windfall to TT's coffers. Oil prices reached $40 per barrel and revenues increased significantly. TT would continue its investment expenditures after this new revenue spike. Markedly, after failing to consummate a joint-ownership deal with foreign firms to build a steel factory, in 1981 from its own resources, TT built ISCOTT, a national steel plant. Heavy losses from both the steel factory and the sugar company, both entirely owned by the state, were incurred and began to accumulate just about the time when the worldwide recession commenced in 1980. Fortunately, investment for an aluminum smelter was deferred but new petrochemical companies were being constructed even as prices started to fall and losses became high.

Even as the signs of a recession were becoming evident, TT embarked on yet another major acquisition: the Texaco properties. Under trade union pressure from the militantly nationalistic OWTU, negotiations commenced in 1982 and lasted until 1985 for an agreed price of (US)$185million which included all of Texaco's oil-producing facilities, a refinery, land holdings, offshore holdings (e.g. gas stations) but excluded Texaco's 50% share in TNA and its 50% share of Tenneco. This new TT acquisition was put under the control of a new outfit, TRINTOPEC. New petrochemicals were also acquired so that between 1977 and 1984, five national gas plants were commissioned of which 2 produced ammonia (Fertrin and Tringen I), one urea, the fourth methanol and the fifth sponge iron, billets, of these, it might be recalled, two were joint with Grace (Tringen I) and Amoco (Fertrin).

Together, the overall picture pointed to a massive mixture of investment acquisitions, plus huge accumulating costs to accommodate nationalistic demands for some of the benefits of the oil boom taking the form of subsidies and state-created employment opportunities. Along with these acquisitions were correspondingly huge financial mismanagement and corruption. By 1980, when a world recession commenced, progressively this would impact on Trinidad so that between 1980 and 1990, economic growth fell dramatically with a final collapse in oil prices in 1986. We take up the decline and collapse in the next section.

Collapse, Exile and Fall from Grace (1982-1992)

The time of plenty would not last. The wealth windfall generated from the high oil prices and increased oil production collapsed almost as precipitously as it had arisen. Oil production fell from 80 million barrels in 1978 to 61.6 million in 1986. Balance of payment deficit was (TT)$686 million. Rising unemployment, approaching 20%, exacerbated industrial relations between workers and factory owners in a period marked by retrenchment, strikes, wage freeze, lockouts etc. For the next decade, Trinidad descended into a slow grind of negative economic growth while the standard of living was cut in half. From 1982 to 1987, the country had registered six consecutive years of negative growth. Earnings from oil fell by half especially with price collapse in 1986. Unemployment almost doubled from 10% to 22%. GDP in 1987 fell by 28% from 1982. The state had incurred huge debts that needed servicing. It quickly depleted its billion-dollar savings in the overseas accounts in part to finance its budgetary deficits stemming from the recession.

The impact of the oil boom was felt most dramatically in the agricultural sector. In 1982, agriculture provided about 2% of the GDP; this was just about half of what it was in 1970 before the boom. The agricultural labor force decreased from 85,000 in 1972 to 38,000 in 1982. There was a contraction to (TT)$231million in 1982 but rose again to (TT)$337.1million in 1993. In effect, a pattern of de-industrialisation was followed by a revival (Hosein 2007, 51-79) That is from decline and de-industrialisation during the boom years to a revival during the recession period. The pattern was true also of the cocoa, coffee and citrus sub-sectors. In the period of revival after the recession and collapse (1982-1992), coffee in 1994 produced 1,015,000 kg but fell again to 247,000 in 2002; cocoa and rose fell similarly but less steeply. Citrus ceased export altogether in this period. De-agriculturalisation was more decisive in the second post-boom period.

Sugar: This up and down pattern was also true of the sugar industry. In 1966, sugar which accounted for 2.14% of GDP and earned (TT)$266.5 million in 1984, fell to about 0.43% of GDP or (TT)$80.5million but revived in 1993 to (TT)$231.3. In terms of revenue, in 1972, it was (TT)$266.5, and in 1984 it fell to (TT)$80.5 million and rose again in 1993 to (TT)$231.3 million. Sugar production in 1966 was 154,000 tonnes, in 1982, it fell to 48,000 tonnes and in 1993 rose again to 104,000 tonnes. The nationalised sugar company, Caroni Ltd especially became a burden. Its capacity of 220,000 tons fell short by two thirds and its cost of production was $445 per ton but only $220 worldwide. Real sugar wages for its 20,000 workers increased by 81%. By 1983, Caroni received (TT)$300 million in subsidy. After the sugar industry was nationalised in 1976, its losses were (TT)$247 million in 1977-78 and it continued losing money thereafter. Just before and after the second boom, between 1994 and 2003 employment in sugar fell from 12,900 to 7,900.

Production fell from 131,000 tonnes in 1994 to 67,600 tonnes in 2003. All of this will culminate in the closing down of the sugar industry by 2006.

The government cement factory also lost with its cost of production, which was 50% more than the worldwide production cost, consequently, by 1981 the factory received $53 m in state subsidy. Trintoc, the state petroleum company acquired in 1969 jointly with Tosoro and bought out completely by the state in 1985, lost $114 m in 1981. Closing it would have led to the loss of 1,000 jobs. It was about this time of falling oil prices that Texaco, the largest oil company employing 4,000 workers, had decided to sell its assets to TT. ISCOTT, the state steel company also became an immense financial burden. Producing steel at $410 per ton, while worldwide production costs were $270 per ton, the company had incurred losses of $400m by 1982, equivalent to one-fifth of oil revenues. The huge investment in the petrochemical plants, which had anticipated continued high prices, saw dramatic price decreases instead with its concomitant losses. From 1975 to 1985, TT invested $3,300 b in gas-based projects including those that did not materialise in the 1978 to 1982 period. These petrochemical industries did not yield short term profits but, in the following decade, gas production superseded oil and within 10 years meant more than oil to the economy" (McGuire p.76).

Prime Minister Eric Williams who held power since 1956, died in 1981 and his party, the PNM, was defeated at the polls in 1986. The new NAR government had the unenviable task of fixing the shambles it had inherited and would seek IMF rescue through a Standby Agreement. The IMF medicine prescribed harsh curative programs that saw the reining in of subsidies, currency devaluations, salary cuts, and extensive privatisation of a bloated overstaffed public bureaucracy. In the 1980s after the recession took its toll, the aim of the austerity program was to seek divestment, escape from the burdens of these petrochemical industries and others as well. The National Alliance for Reconstruction (NAR) government (1986-1991), and its successor the PNM (1992-5), both established a special divestment department to oversee the process of disengaging the state in its numerous enterprises. The state abandoned its role as a direct investor in the productive facilities of the economy and became a facilitator instead. The petrochemical plants owned by the government were all eventually sold, as was the steel plant. By 1990/1991, TT was returning to growth (1.5% and 2.1% respectively) reaching 3% by 1994.

Boom II and A return to Prosperity 1998-2008

The period of collapse and its aftermath ended by 1992and a slow recovery, showing early signs as early as 1990, would set the stage for a robust resuscitation culminating in a new boom from 1999 lasting onto 2008. This time it would not be petroleum as the driver of the new wealth but gas. Gas since the 1950s, which had been discovered in commercial quantities, was at first flared and wasted apart from some domestic use for sustaining electricity supply to the population through T &TEC. As pointed out earlier, as oil revenues started to pour into the treasury, the TT ruling regime decided in a program of diversification to place gas at center stage of a new industrialisation project in anticipation of the day when oil supplies would be exhausted. A National Gas Company (NGA) was launched in 1975 and given the mandate to guide gas utilization mainly aimed at petrochemical industries, as well as the cement and steel industries and an aluminum smelter. Apart from the aluminum smelter, which was abandoned, all of these projects were commissioned with varying degrees of success and failure in the following years. What was accomplished, and came into strategic use in the new boom, was the laying in these early years of a gas-producing infrastructure including the Point Lisas Industrial Estate that would lay a solid foundation for prosperity.

The gas industry during the first boom and collapse occupied a secondary position to petroleum exploitation. Neglected by the new NAR government that succeeded the fall of the PNM in 1986, it would not be for another five years, until 1992, when the gas industry would be resuscitated, and gas was now made available not only for domestic use but also for overseas markets. Continuing the IMF and World Bank privatisation program, the government-owned petrochemical plants were sold off to the private sector where it would be revived by new foreign investors. New gas discoveries abetted the lurch into greater gas production which would be harnessed into liquefied gas for the export market by a new consortium of investors in 1995. The consortium, which constituted of Cabot Lodge, Amoco, BG, and NGC, invested some (US)$965 million in this initial project which would be joined by Repsol and other companies to form the Atlantic liquefied National Gas Company in 1998. Thus, gas production and export mainly to US and Spanish markets commenced with the construction of Train I and the first shipment in 1999. BG and Amoco had discovered more gas than could be utilised by Train I so that it was decided to launch Train II and Train III in 2000 and 2003 with shipments in 2002 and 2003 respectively.

In five to six years, gas-based revenues exploded exponentially so that between 2001 and 2008 TT collected (US)$102.6 billion taxes out of total gas revenues of (US)$225 billion which were generated. Revenues continued to spiral through 2007 and 2008 when the price of oil increased by 381%, natural gas by 264%, ammonia by 378% and methanol by 274% (McGuire pp.76-7). The economic impact was radiant, with economic growth averaging 7% and unemployment fell to 4.6%. Even the non-gas sector grew dramatically averaging 12%. Growth in foreign exchange grew strongly with export earnings contributing 88%.

Government expenditures reached TT$177 billion, increasing by 13%, but still below the growth of revenues of 20%. Expenditures were again profligate. Between 2002 and 2007, Prime Minister Manning in his budget speech to Parliament revealed that of total revenue of TT$162 billion, 29.2 % was spent for salaries and wages including two rounds of salary adjustments for public servants; (TT)$6.1 billion for subsidies including (TT)$3.9 billion for gasoline and a good part of the rest for work programs (called CEPEP and URP); transfers to the unprofitable state enterprises of (TT)$18.8 billion including for losses incurred by Caroni Ltd, and with investment in conspicuous construction (for example the Brian Lara stadium); increases for pensions, social security grants, social assistance etc. amounting to (TT)$15.5 billion, all of which added up to 85% of total recurrent expenditure. The government, however, did establish a Sovereign Wealth Fund in 1999 serving as an Interim Revenue Stabilisation Fund for rainy days, changed the name in 2007 to Heritage and Stabilisation Fund which by 2009 grew to (US) $2.6 billion or 17% of all revenues collected. It earned about 4% interest annually.

Post-2008: Into another Abyss in the Cursed Cycle of Fate

After the exuberance of the second boom, almost inevitably, a new dive in fortunes followed, this time after the financial collapse of 2008. While TT did not suffer the same level of dislocation, like many other countries in the eye of the storm of falling oil prices, it did incur at first a minor fall and some recovery followed by a more decisive and long-lasting recession. Following the international financial collapse in 2008, after enjoying a growth rate averaging 7% annually from 2002 to 2008, and full employment at about 4.6% during the last boom, TT's growth fell to 3.3% in 2009, 2.1% in 2010, and 1.4% in 2011.

TT had suffered three consecutive years of contraction before 2015 with growth of only 1% in 2014, 2.1% in 2015 and 2.8% in 2016. Oil prices had declined so precipitously that by 2015, Government revenues fell from 57.6% in 2011 to 50% in 2012, and 30.5% in 2015. Sharp declines in export revenues followed. Between 2011 and 2015, the energy sector dominated by gas, took a blow of 44% reduction by 2011, falling by 37.2% in 2014, and 32.1% in 2015.

Rising unemployment testified to a slump and a grave recession. The international rating agencies, Moody and Standard and Poor's downgraded TT. Budgetary deficits neared crisis so that for the first time the government had to dip into the Heritage and Stabilisation Fund for rescue. In 2017 and 2018, some signs of incipient recovery were evident. In part, the downward dip was caused by significantly reduced availability of gas. New exploration programs have now rejuvenated supplies from the Juniper fields. However, there were major structural changes in the gas market internationally, mainly, in the US, which was TT's main export market for LNG. However, new shale oil and gas production soared, requiring TT to seek alternative markets in Latin America. TT production of crude oil also fell below 100,000 bpd from 145,000 bpd in 2005 to 92,000 bpd in 2011 and to much less by 2015, requiring TT to import supplies from Venezuela and elsewhere.

In early 2005, the PNM government closed down the sugar industry which was continuing its heavy losses. Then in 2017, the Steel company owned and operated by ISPAT which had replaced the unprofitable state-owned steel facility closed down claiming bankruptcy. In 2019, The government closed down its only refinery, TRINTOPEC, which was perennially unprofitable. Apart from these three heavy losses of industries that might have become structures of diversification if properly managed, agriculture continued its stagnation with the import bill for food growing astronomically. Under private enterprise, the light industry sector continued on a path of relative profitability and growth but not in a magnitude to inspire hope. The tourism sector has continued in its recession mode. In the human resource sphere, the country did successfully train a number of university graduates for technical and professional positions throughout the country. It opened a new university called the University of Trinidad and Tobago (UTT) and liberalised admission criteria so that applicants rejected at the elite University of the West Indies (UWI), whose admission doubled from about 8,00 to about 15,000, could find a place to enjoy tertiary training.

Many graduates, however, are finding it difficult to find jobs. This feeds into an already staggering brain drain which has drawn more than 50 % of recent graduates to other shores. In effect, overall, the fallback position in diversification was not established and the most recent recession had brought much public despondency and austerity in public spending. Yet, there is no food shortages and little inflation as Trinidadians continue to revel in the splendour of their never-ending sunshine but living in mortal fear of the severe crime condition that has gone out of control. The crisis in Venezuela next door has spilled over to Trinidad with large numbers of Venezuelans, legal and illegal, seeking refuge and a new life. Some recovery in oil prices and new oil and gas discoveries have offered a glimmer of optimism for the future but nothing like the prosperity and plenty of the two previous booms. Since the last boom TT had experienced two changes in government with all new governments confronting a plethora of common crises, not only in the falling price of gas but also in the social area regarding a breakdown of law and order. Once again, much was also expended in subsidies in public work creation and for the subsidisation of gasoline price at the pump.

Commentary and Analysis

In the foregoing description and analysis of the Trinidad oil and gas experience, we saw with the dramatic increase in oil prices in 1973 how revenues grew to unprecedented heights suddenly, and equally suddenly, with the fall of prices the emergence of recession. As a prism of analysis, the resource curse and Dutch Disease paradigms yielded some convincing insights that both describe and account for the sudden up and down in the economy. In this concluding section, we look critically at the resource curse and the Dutch Disease, in effect, we examine what policymakers did correctly and what poor decisions were made in undoing the sudden acquisition of wealth. We shall look at the full spectrum of effects commonly assigned to the resource curse including both economic as well as social and political aspects. Importantly, we shall argue that the outcomes of the two booms were a mixed bag of both positive and negative consequences so that the claims of the resource curse proponents are only partially valid.

It would be wrong to assume that the decision-makers did not seek, at least at first, to manage the huge financial windfall wisely. This they did in part through savings and diversification programs. To be sure, from the increased revenues, the government spent lavishly. However, it did in both the first and second boom, set up programs of savings. In the first years after the huge revenue windfall, expenditure was careful and conservative:

a.i. 75% were savings accounts placed in banks abroad in 47 Special Funds for long Term development reaching TT$4,401.8 in 1980 and

a.ii. 12% invested domestically in part to offset budgetary deficits. During the second boom, a Sovereign Wealth Fund was set up in 1999 (subsequently called The Heritage and Stabilization Fund) which by 2009 grew to US%$2.6 billion or 17% of all revenues collected. It earned about

4%interest annually.

The government had also sought to counter the resource curse through diversification of the economy. However, it was unable to prevent the distortion in the development of the economy when the agriculture and manufacturing sectors shrunk, as the oil sector drew away capital and labor from other sectors enfeebling them. It was in regard to its diversification program that the greatest efforts were made to counter the resource curse, particularly in the areas of a. gas and 2. Petrochemicals; 3. Steel 4. Manufacturing First was the gas industry. In a major shift of strategy aimed at diversification, in view of a forecast that oil reserves were due to expire in about four years, the government embarked on a project to capture flared gas for electricity generation, as well as in developing a petrochemical industry. In 1975, a National Gas Company was formed. Gas was strictly used only domestically and was applied to the local generation of electricity through a newly constructed pipeline. The second area of diversification was petrochemicals. Investing in petrochemicals, Trinidad started with ammonia in a joint investment with W.R Grace (49% ownership) in forming TRINGEN I. Another joint investment in ammonia was with Amoco in establishing FERTRIN. Along with these new investments was also a huge outlay in building the Point Lisas Industrial Estate (over TT $6 billion) to house all these new investment projects. In petrochemicals, it entered into a partnership with Esso and in doing so proceeded in spending massive sums in establishing an infrastructure for both oil and petrochemicals. New petrochemicals were also acquired so that between 1977 and 1984, five national gas plants were commissioned of which 2 produced ammonia (Fertrin and Trenten I), one urea, the fourth methanol and the fifth sponge iron, billets, of these, it might be recalled, 2 were joint with Grace (Tringen I) and Amoco (Fertrin).

Another area of diversification was steel TT built ISCOTT, given it ignoring the advice of experts against the steel project and that from the beginning the factory had proved unprofitable this was clearly an unwise investment bordering on outright mismanagement. It did attempt to keep the unprofitable sugar industry afloat by acquiring and nationalising its factories altogether, this represented another case of an unwise decision. Adding to this was the profligate indulgence in temporary work employment programs and in the expansion of the public service. Similarly, the petrochemical industry suffered the same fate of falling prices in the wake of the recession that brought an end to the first oil boom. Overall, excessive government subsidies on a wide range of consumer products, as described earlier, pointed to a major shift of government expenditures towards undisciplined consumption. All of this fuelled the fall into decline when the price of oil collapsed. It is therefore clear that not all types of diversification were salutary in the evolution of a self-sustaining economy.

Performance in the social and political realms was also mixed. Law and order had become a major national concern often reaching crisis proportions so that government security expenditure expanded by 215%. Finally, what about the argument from the resource curse school that political instability, more conflict, and authoritarian regimes follow abundant oil and gas discoveries? In the case of TT with a vibrant free press, through both the first and second booms, , parliamentary democracy has been preserved without much political instability and authoritarian tendencies. Throughout the times of crisis and turbulent change, TT had maintained an open democratic system of governance. Corruption, however, abounds as well as widespread break down in drug-related law and order.

It has been argued that to counter the resource curse, a petrostate should invest in human resources such as education and health. In the case of Trinidad, especially during the second boom, the government did invest significantly in these sectors. The second boom had given Trinidad decisionmakers ample time to plan and build beyond reliance on oil, gas and petrochemicals, some sort of defence against the resource curse especially in investing in human resources and health. From 2002-8, government expenditure in education rose 16% from $TT 2.36 billion to TT $ 5.6. Increase in expenditure on health reached 8% or 2% of GNP. Affordable housing also received a boost, the aim was to build 8,000 housing units starting in 2002 and selling them to citizens at subsidized prices. As fate would have it, many of the contracts for house building were allocated to political party hacks and the upshot was a whole array of sub-standard homes that were given out to party supporters and that required additional expensive work for occupation. The housing project fell into the black hole of corruption, incurring huge losses to the state.

On balance, it is clear that the Dutch Disease perspective was largely confirmed. TT saw its agricultural sector diminish almost to the point of total marginalisation. In the light industrial sector of manufacturing, after the government disposed of all of the small businesses that were acquired during the first boom and which lost money, this sector has now revived under private enterprise. The closing of the unprofitable sugar industry in 2006, followed by the bankruptcy of the privately owned steel factory in 2017, and in 2019 the closure of Petrotrin, the unprofitable refinery have all been linked in one way or another to the rise of the oil and gas industry and caused great dislocations and suffering. With petroleum yielding only about 60,000 barrels a day (not enough to sustain TT's daily needs and therefore requiring supplemental petroleum importation), the gas-based energy industry continues as the mainstay of the current economy but faces the prospect of depleting gas supply.

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