

JDS_SIDS4.2:210815:7,613

Natural Resources and Small Island Economies: Mauritius and Trinidad and Tobago**Abstract**

Through 1973-97, small economies especially resource-rich ones underperformed large economies. Small island economies appear still more disadvantaged due to remoteness from both markets and agglomeration economies. Yet a comparison of two small island economies with similar initial conditions other than their mineral endowment suggests that policy outweighs size, isolation and resource endowment in determining economic performance. Resource-poor Mauritius adopted an unfashionable policy of export manufacturing that systematically eliminated surplus labour, which drove economic diversification that sustained rapid GDP growth and political maturation. Like most resource-rich economies, Trinidad and Tobago pursued policies that absorbed rent too rapidly, which impeded diversification and created an illusory prosperity vulnerable to collapse.

1. Introduction

The literature assumes that the development prospects of small economies are inferior to those of large economies mainly because their domestic markets constrain their capacity to industrialize (Perkins and Syrquin 1989). In addition, small economies face: limited diversification options; vulnerability to trade shocks; shallow financial markets; and diseconomies of scale in the provision of public services. In this context, small island economies are presumed to be even more disadvantaged because their remoteness from major markets raises transport costs (Sachs and Warner 1997) and attenuates the potential spill-over of agglomeration economies from world cities (McKinsey 2012).

Natural resource abundance might be expected to improve the development prospects of small island economies. Economists assume that resource abundance will be advantageous provided the rent is deployed to sustain higher rates of both investment and imports of the goods required to build the infrastructure of a modern economy and boost economic diversification. The empirical evidence is ambiguous, however. The resource curse literature suggests that small resource-rich economies underperform compared with small resource-poor economies (Auty 2001, Syrquin and Chenery 1989). Nevertheless, some recent studies contest the existence of a resource curse (Brunnschweiler 2008; Lederman and Maloney 2007). A further complication derives from the often neglected fact that the global incidence of the resource curse fluctuates over time. It intensified through the commodity price volatility of 1973-85 and its aftermath, but then abated (Table 1).

This paper embraces an historical perspective to analyse these issues through case studies of two small island economies, one resource-rich (Trinidad and Tobago) and the other resource-poor

(Mauritius). Case studies complement statistical analyses by considering a wider array of factors that offer more nuanced conclusions. The case study countries are selected for their remarkably similar initial conditions in the early-1960s when they resembled twin economies, aside from their mineral endowments. They were British colonies with parliamentary democracies of 800,000-900,000 ethnically mixed people. Both were reliant on sugar plantations but had 0.13 hectares per capita of cropland, half that of Bangladesh at the time, and faced increasing land-scarcity.

Trinidad and Tobago experienced three large natural resource rent windfalls after independence whereas Mauritius generated very modest geopolitical rent that shrank. Yet fifty years later both are mid-income economies. This paper argues that Mauritius overcame potential disadvantages of size, remoteness and resource paucity by adopting an unfashionable policy of manufactured exports that systematically diversified and strengthened its economy. In contrast, the prosperity of Trinidad and Tobago is fragile: its policy of monetising its resources has intensified a risky dependence upon hydrocarbon reserves that face depletion within a decade.

The paper proceeds as follows. Section 2 reviews the literature on small economies to establish their development prospects under contrasting resource endowments. Section 3 analyses the effective development trajectory of resource-poor Mauritius, which pursued competitive industrialization. Section 4 contrasts that trajectory with the resource-rich staple trap trajectory of Trinidad and Tobago to explain its flawed development. Section 5 summarises the findings.

2. The Literature on Small Economies and the Resource Endowment

This paper embraces an historical perspective because the consequences of policies adopted in the early post-war decades still resonate. Syrquin and Chenery (1989) provide a starting point. They analysed World Bank data for 1950-83 to assess the impact of the size of an economy, its resource endowment and its trade policy on structural change and per capita income. They defined a small economy as a gross domestic product in 1970 below \$7 billion, which they judged insufficient at that time to furnish domestic demand to support plants of minimum viable size in most industries. They classified resource abundant economies as being land rich, i.e. having over 0.3 hectares of cropland per capita in 1970. But they added oil-exporters and mineral-exporters where these commodities exceeded 40% of exports. Table 1 summarises the classification: the majority of developing economies were small (three-quarters) and of these six-sevenths were resource-rich.

The IMF opts for a narrower definition of a small economy, namely having fewer than 1.5 million people in 2010 (Jahan and Wang 2013). Globally there are nineteen 'small' states plus fifteen

'micro-states', with populations less than 200,000. This paper focuses on small economies rather than micro-states. It retains the Syrquin and Chenery classification and updates the performance data (Table 1). Most small economies are lower mid-income countries but they range from low-income Bhutan, Belize and Guyana to upper middle-income countries like Barbados, Mauritius and Trinidad and Tobago.

2.1 Country Size and Economic Development

The literature has long suggested that small size is disadvantageous to economic development (Demas 1965). Through the second half of the twentieth century, most developing country governments assigned a central role to manufacturing, which appeared to disadvantage small economies. This is because the strategy of industrialization by import substitution advocated by influential UN economists like Prebisch (1962) and widely endorsed from the 1950s was constrained by their limited domestic markets. The strategy especially challenged small island economies due to distance from both major markets and agglomeration economies.

Small economies have inferior diversification options to large economies not only for manufacturing, but also because their smaller geographical area shrinks the range of resources for export. Syrquin and Chenery (1989) find that small economies tend to depend on one or two export sectors, typically commodities, tourism or financial services, but rarely manufacturing. Large economies diversify into a wider range of manufacturing than small economies and they begin to do so from a lower per capita income. Large economies also tend to be more self-sufficient than small ones and their lower ratio of trade to GDP renders them less vulnerable to external shocks. Certainly, the large resource-poor economies as a group avoided the protracted growth collapses that befell so many other developing countries through the 1970s and 1980s (Table 1).

In addition to their assumed disadvantages for industrialisation and diversification more broadly, small economies incur higher expenditure on government, due partly to diseconomies of scale in government services (Jahan and Wang 2013). Their capital markets are thin because their financial sectors tend to be underdeveloped and lack depth, competition and adequate regulation. Financial risk is further heightened by the fact that in small economies commercial banks may be the principal holder of government debt. In addition, small economies tend to be more indebted than larger economies, with debt/GDP ratios some 50% higher. Finally, small economies favour fixed exchange rates, which adjust imperfectly to domestic conditions and require larger reserves as a buffer against shocks, the risk of which is increased for small economies by their high reliance on trade and the associated revenue volatility.

Nevertheless, Armstrong and Read (2002) query the weak performance of small developing economies. Using data for 1980-93, they conclude that despite their scale disadvantages, small economies did not grow appreciably slower than their larger contemporaries. One reason may be the ability of domestic elites (notably in micro states) to turn small size to advantage by extracting from larger economies concessions that impose minimal costs on the provider's economy. Another reason may be the under-performance of the large resource-rich developing economies during those years, many of which experienced growth collapses (Table 1).

However, the broader picture from Table 1 is of an especially disappointing performance by small resource-rich economies. McGillivray et al. (2010) report the same outcome for small island states through 1985-2006, which grew at three-quarters the rate of the developing economies. Consistent with this view, Jahan and Wang (2013) confirm that during 2000-2011 small states grew more slowly than larger ones. Jahan and Wang attribute disappointing growth to increased commodity price volatility, which is especially problematic for small economies, along with a brain drain to larger economies and the erosion of favourable trade deals by the WTO. However, the recent lagging growth in the smallest economies partly reflects the robust recovery of most of the larger economies after implementing 1990s policy reforms backed by the International Financial Institutions (IFIs) (Table 1).

2.2 Natural Resources and Economic Development

Table 1 indicates that the resource-poor economies and especially the larger ones outperformed the resource-rich ones 1974-97. The small resource-rich economies, which comprised the majority of developing countries, performed worst of all (Perkins and Syrquin 1989). Despite strenuous efforts to industrialise, most small resource-rich economies increased their dependence on primary product exports as their PCGDP rose. Moreover, their economies tended to be less open in order to support infant industry: the share of exports in GDP for small resource-abundant countries was barely one-fifth, scarcely half the ratio of the small resource-poor economies, which pursued more open trade policies. Small resource-rich economies struggle to diversify into manufactured exports: even at higher per capita incomes, their manufactured exports remain below 4 per cent of GDP (Syrquin and Chenery 1989). Consequently, small resource-rich economies often rely on a single primary product export, rendering them acutely vulnerable to external shocks. Table 1 suggests small mineral economies like Trinidad and Tobago are most vulnerable of all.

In contrast, small resource-poor economies generate a higher share of manufactured exports alongside a higher share of manufactured imports, which comprise both inputs for domestic

manufacturing firms and goods for final consumption. The small resource-poor economies achieve a greater integration in the world economy than the resource-rich economies (Syrquin and Chenery 1989, 50). They proved more likely than small resource-rich economies to take advantage of the post-war trend towards trade liberalization to circumvent diseconomies of scale in their domestic markets, allowing them to grow faster (Alesina et al. 2005). Mauritius was an early reformer, redirecting its trade policy in 1970 after studying Taiwan, which reformed in 1958. Remote as it is, Mauritius absorbed freight costs on manufactured exports to major developed country markets and attracted tourists from Europe.

The findings of Syrquin and Chenery (1989) are consistent with resource curse effects. Van der Ploeg (2011) and Frankel (2011) provide detailed reviews of the resource curse, which has proved more complex than initially thought. Several economic, social and political factors interact, contrary to the parsimonious explanations often proffered. Sachs and Warner (1975) initially stressed economic causes, notably Dutch disease effects, but others identified institutions as dominant (Brunnschweiler 2008). However, Glaeser et al. (2004) found that while institutions improve with rising per capita incomes, they do not drive welfare gains. Moreover, the patrimonial form of capitalism in many developing economies bends institutions to benefit the politically-connected elite (Schlumberger 2008; World Bank 2009). Glaeser et al (2004) conclude, like Syrquin and Chenery (1989), that policy matters.

This paper argues that vulnerability to resource curse effects varies over time: outcomes are not deterministic because policy counts. Small economies, especially resource-rich ones, were particularly disadvantaged during the 1950s and 1960s by pursuing fashionable policies of industrialisation by import substitution. The policies frequently degenerated into conduits for rent-seeking (Lal and Myint 1996) that misallocated not only resource rent but also geopolitical rent and regulatory rent (Tollison 1982), to protect urban activity. Subsequently, IFI-backed reforms to curb state intervention have improved economic performance.

Technological change has further enhanced prospects for small economies, notably small island economies because export services are expanding and they are less sensitive to transport costs than manufacturing and yet they match growth in manufacturing productivity (McKinsey 2012, Ghani et al. 2012). This is especially true of productive services, which include communications, insurance, finance and information computing that are provided electronically across international borders. Commercial services for foreign direct investments represent 57% of total global service exports; and IT services comprise 28%. In contrast, traditional services like travel and tourism are labour-intensive and comprise 14% of global service exports. Developing countries increasingly

display a revealed comparative advantage in productive services that is stronger than that in labour-intensive services or manufacturing (Ghani et al. (2012)).

3. Mauritius' Competitive Industrialization Development Trajectory

Mauritius' development trajectory demonstrates that small island economies can surmount insularity and industrialise efficiently. Mauritius chose a policy in the late-1960s that was then unusual for a small economy: prioritising export manufacturing over import substitution. This section explains why the Mauritius elite made the critical policy switch and traces the development trajectory it triggered. The process is summarised in a stylised facts model of low-rent competitive industrialization derived from the literature. The model identifies four linked elements that drive the development trajectory (Table 2): (i) elite policy choice; (ii) structural change; (iii) social capital formation; and (v) political evolution. Since both case countries sustained their democracies, we focus on the first two elements.

3.1 Policy Choice: Competitive Industrialisation

Mauritius faced a Malthusian future in the early-1960s due to high population growth, diminishing cropland availability and remoteness from major markets. Sugar dominated the economy, generating 35 per cent of GNP, 35 per cent of employment and 98 per cent of exports (Findlay and Wellisz 1993). Non-sugar manufacturing represented only seven per cent of GNP, mainly beverages, clothing and wood products for domestic consumption. Mauritius lacked mineral resources and was unusually remote, being 30 per cent further from major global markets than the average developing country (Sachs and Warner 1997). Sugar planters began investing in land-rich Kenya while a Commission of Enquiry recommended a policy of industrialization by import substitution along with birth control and wage restraint.

Mauritius generated modest geopolitical rent from privileged access to major markets for sugar and later textiles. A sugar windfall conferred an extra 7.4 per cent of GDP annually 1972-1975 (Greenaway and Lamusse 1999, 214), after which Sacerdoti et al. (2002) estimate the annual rent from sugar averaged 6.1 per cent of GDP 1975-2000. In addition, the Multi-Fibre Agreement on textile exports contributed 0.5 per cent of GDP in 1984 rising to 2.9 per cent of GDP in 1996 (Subramanian and Roy (2003), 223 and 235). Overall, Subramanian (2009, 13) estimates that Mauritius' rent from sugar and textiles averaged seven per cent of GDP per annum in the 1980s, then 4.5 per cent annually in the 1990s before tapering off. In contrast, Trinidad and Tobago secured hydrocarbon

rent windfalls in 1974-1978 and 1979-1982 equivalent to an extra two-fifths of non-mining GDP annually (Gelb and Associates 1988) and then half as much again 2004-2008.

In the 1960s ethnic tension threatened Mauritius' social stability. A small French plantocracy contested power with a Hindu majority and sizeable Muslim, Creole and Chinese minorities. The Hindus favoured independence, unlike most other ethnic groups. The political polarization combined with rising unemployment and falling incomes to spark riots prior to independence in 1967. The government tackled discontent by deploying a 1963-1965 sugar windfall to boost wages and expand public works programmes to one-sixth of the workforce. By 1967 public sector workers outnumbered sugar workers: the civil service employed 20.3 per cent of workers and relief work 22.3 per cent, compared with 38.5 per cent in sugar.

When sugar prices fell back in the late-1960s, social spending deepened public sector debt, prompting the elite to conclude that sugar rent could no longer provide rising incomes for an expanding workforce. The Mauritian planters assembled a pro-growth political coalition to block a radical redistributive party and form the first independent government. The coalition responded to disappointing results from import substitution industry by emulating low-rent Taiwan (Yueng 1998, Baissac 2011) and espousing export manufacturing. Consistent with the competitive industrialisation model (Table 2, Element 1), low rent motivated the elite to enrich itself by growing the economy efficiently. This required the provision of public goods and efficient markets to promote a comparative advantage in labour-intensive manufactured exports.

The policy triggered a singular pattern of structural change that drove rapid PCGDP growth (Table 2, Element 2). Critically, the expansion of competitive manufacturing accelerates the arrival of the labour market turning point (Lewis 1954, Gollin 2014), which sharply raises real wages, requiring diversification to improve productivity and maintain competitiveness. Early industrialization brings early urbanization that accelerates the demographic cycle. This lowers the worker/dependent ratio to lift saving and investment (Bloom and Williamson 1998). Table 3 shows Mauritius started its demographic cycle later than Trinidad and Tobago and proceeded faster. Nevertheless, the key element in competitive diversification is the elimination of surplus labour, which confers not only rapid economic growth but also egalitarian growth by putting a floor under the wages of the poor while diffusing technological skills cap the skill premium for trained workers (Londono 1996).

The Mauritius government pursued competitive industrialization through a dual track political strategy designed to limit confrontation with unions, civil servants and protected industry. The government postponed reform of the rent-subsidised economy (Track 2) while building a dynamic market economy (Track 1). Planters and workers agreed that sugar rent should fund the civil service and social protection, provided the scale of transfers did not impair sugar's competitiveness. As late as

1980 Mauritius' modest geopolitical rent still subsidised Track 2 through: rates of effective protection for infant industry averaging 185 per cent (Findlay and Wellisz 1993); wages 50 per cent above the EPZ (Rodrik 2001, 24); and controlled prices for basic items like food staples and energy.

Track 1 comprised an export processing zone (EPZ), which from 1970 began absorbing surplus labour by expanding labour-intensive textiles. EPZ incentives included a ten year tax holiday, exemption from import duties on production for export, flexible labour laws and low wages. Foreign firms gained unrestricted repatriation of their investment, profits and dividends and guarantees against nationalisation. Tourism received similar terms. The incentives attracted investors from Hong Kong as well as Europe, although foreign direct investment rarely exceeded five per cent of GDP (Baissac 2011, 235). The economy reached its labour market turning point in 1990, which triggered diversification into skill-intensive and capital-intensive manufacturing and services (Table 2, Element 2).

Unlike many contemporaries, the Mauritius government ensured rent diffused efficiently through private investment by taxing the 1972-75 sugar windfall lightly. The windfall doubled gross saving and boosted investment by one-half to 23 per cent of GDP (Findlay and Wellisz 1993). Some planters diversified into EPZ textile manufacturing through joint ventures with Asian partners. By 1980 101 firms employed 21,600, furnished 27 per cent of exports and produced 4.3 per cent of GDP (Yueng 1998, 10-11). Meanwhile, tourist arrivals tripled 1970-1980 to 115,000, signalling diversification into service exports. GDP growth averaged 6% per annum through the 1970s, easing unemployment and social tension.

However, social spending in Track 2 proved difficult to sustain and hard to cut back, more than doubling to ten per cent of GDP. In 1979 the second oil shock pushed public sector borrowing to 13 per cent of GDP and external debt exceeded 50 per cent of GDP, forcing the government to seek IFI assistance. Loans were conditional on cuts in social expenditure and removal of trade restrictions. GDP contracted by ten percent in 1980 and helped the opposition win a landslide in 1982. But the development strategy had already transformed Mauritius from a polarised democracy with a failing economy into a consensual democracy with a vigorous economy (Table 2, Element 4). The new government maintained IFI-backed policies and after a brief recession that halved per capita GDP growth to 2.8 per cent 1980-1984, the economy grew by 6.6 per cent annually 1985-1989.

The recession spurred Mauritius to merge Tracks 1 and 2 by removing EPZ tax holidays and incentivising import substitution firms to export. Taxation was rebalanced away from high earners towards consumption. A flat 15 per cent profit tax encouraged investment. During 1980-1990, EPZ firms grew from 101 to 570, their employment quadrupled to 89,900 (almost one-third of total employment) and they generated 12 per cent of GDP and 64 per cent of exports (Yueng 1998, 19-

20). Tourists tripled again to 295,000 when their direct expenditure was 3.1 per cent of GDP (IMF 2005, 35). Meanwhile, lower social spending helped promote self-reliant social capital (Table 2, Element 3) while urbanization substituted formal institutions for bonding social capital (Serageldin and Grooteart 2000, 213).

3.2 Impact of the Labour Market Turning Point

Mauritius' labour market turning point intensified wage pressures, which accelerated economic diversification (Table 2, Element 2). At its peak, labour-intensive textiles and clothing had earned 84 per cent of Mauritius exports, but the sector's growth averaged barely six per cent annually 1989-1993, one-quarter the rate 1984-1988 (Financial Times 1994). By 1992 wages in spinning reached \$1.40 per hour in Mauritius compared with \$1 in Thailand, \$0.56 in India and \$0.36 in China and Vietnam. Some Mauritian textile firms moved to Madagascar and China, while others diversified into higher value textiles and IT (Chernoff and Warner 2002). Diversification into higher-margin textiles could not prevent sector employment shrinking, hastened by WTO removal of preferential access for textiles in 2005 (and sugar in 2009). Through the 2000s, employment contracted by 36,000 in textiles and 22,000 in sugar, and their GDP shares fell below six per cent and four per cent, respectively (Joseph and Troester 2013, 24).

Export services rather than manufacturing increasingly drove the economy. Through the 1990s, Mauritius' economy grew by 5.5 per cent annually with total factor productivity now contributing one-quarter of the growth (Subramanian 2009). Tourist arrivals tripled to 965,000 through 1993-2009 and generated around one-quarter of export earnings (Joseph and Troester 2013, 23). By 2011 tourism contributed around 30 per cent of GDP including indirect and induced effects (WTTC 2012). Direct employment in tourism was 12 per cent of the workforce, rising to 26.5 per cent with the multiplier. In addition, finance and insurance contributed 10.3 per cent of GDP directly by 2012 (Financial Services Commission 2013), 12,000 jobs and four per cent of total employment. Indirect employment was larger and embraced outsourced legal, accounting, technology, administration and processing. ICT also grew: in 2012 it generated six per cent of GDP, three per cent of exports, 17,000 jobs and eight per cent annual growth (Joseph and Troester 2013, 61).

Mauritius emulated Singapore to become a regional service hub, facilitating trade between Asia and Africa. It channelled 40 per cent of India's total inbound foreign direct investment during the 2000s, benefiting from a double taxation treaty, low profits tax and low import tariffs (Baissac 2011, 242). In 2011, Mauritius ranked nineteenth out of 185 countries for ease of doing business and 54 out of 144 countries in global competitiveness, second within Africa. Trinidad and Tobago trailed at sixty-sixth and

ninety-fourth, respectively. Meanwhile, Mauritius narrowed the threefold higher per capita income lead that Trinidad and Tobago held in the 1960s from early oil production (Table 4).

Mauritius indicates that small size, remoteness and resource-paucity are not binding constraints. Small island economies can develop rapidly if elites select pro-growth policies without incurring unsustainable expenditure on stabilising society. The competitive industrialization model suggests limited rents may encourage such policy selection. But the model is not deterministic: some small resource-poor economies may struggle if social pressures impair economic policy. However, the empirical literature and the staple trap model both suggest the risk of policy failure is higher under resource abundance.

4. Trinidad and Tobago: The Staple Trap and Rent Dependence

4.1 How the High-Rent Staple Trap Diverges from Competitive Industrialization

Khan and Jomo (2000, 70-144) argue that the political rationale for choosing policies that are economically sub-optimal can be compelling because developing country governments must deploy rent to build political cohesion. The staple trap model posits that high rent incentivises the elite to seek immediate personal enrichment (Table 2, Element 1). This is often at the expense of long-term economic growth (Manzano and Rigobon 2001; Brollo et al. 2013) because competition for rent exerts pressure for rapid rent disbursement, which governments find difficult to resist (Gelb and Associates 1988). Domestic rent absorption therefore is over-rapid, triggering Dutch Disease effects that stifle competitive industrialization and forgo its development benefits (Table 2, Element 2). Without competitive industrialisation, surplus labour persists, which the staple trap model predicts will: impede structural change; intensify rent dependence; postpone the demographic dividend; and heighten income inequality.

Dutch Disease effects are asymmetric because capacity in tradeables is easily lost but difficult to rebuild (Lin and Chang 2009). Most high-rent governments react to Dutch disease effects by closing trade policy to protect employment (Sachs and Warner 1995, Arezki and van der Ploeg 2011), especially in manufacturing whose urbanised presence boosts its political clout compared with dispersed rural activity. Yet protection shifts the internal terms of trade against the primary sector, upon whose rent economic growth increasingly depends. Demand for rent from the burgeoning protected urban sector eventually outstrips supply due to natural resource depletion, falling commodity prices or over-taxation. This is the essence of the staple trap.

Element 3 (Table 2) identifies the parallel emergence of a dependent social capital due to reliance on government rent to subsidise employment and basic commodities. Finally, political maturation stalls in high-rent economies (Table 2, Element 4) because sanctions against anti-social government remain weak as slow structural change retards the emergence of social groups prepared to contest policy capture. Civic voice is muted by reliance on state subsidies; demand from citizens for transparent public expenditure is weakened because governments secure revenue from rent rather than taxes (Ross 2001); and protected businesses find it more profitable to lobby politicians and civil servants for favours than to invest to raise productivity or lobby to strengthen institutions (Khan and Jomo 2000). Meanwhile, the persistence of surplus labour along with rent-seeking in the protected urban sector raises inequality and polarises society. Consequently, changes in government risk radical swings in policy, reinforcing elite resistance to economic reform, without which growth collapses. At best, political regimes in high-rent economies risk regressing and at worst ossifying and becoming brittle (Table 2, Element 4).

4.2 Elite Incentives, Development Policy and Growth Collapse

In Trinidad and Tobago in 1960, sugar cane dominated private employment with one-fifth of total employment. It also produced 14 per cent of GDP and 12 per cent of exports (World Bank 1961). The enclave oil sector already dominated exports, however, and yielded taxes that boosted incomes through higher public expenditure. Offshore oil then expanded to generate by the early-1970s: one-fifth of GDP, one-fifth of government revenue and three-quarters of exports, but barely one-hundredth of employment. The economy already exhibited Dutch disease effects: non-mining tradeables were two-thirds the size expected for a small mid-income economy (Gelb and Associates 1988). Even this ratio flattered because half the activity classified as non-mining tradeables required protection.

Ethnic diversity left no single group commanding a political majority. It also impeded political alignment along ideological or class lines. Two-fifths of the population was descended from indentured Indian plantation workers and engaged in farming and business. A similar fraction was Afro-Caribbean, and dominated the civil service. Half were urbanized compared with one-fifth of Indians (Owolabe 2007, 15). Another 17 per cent of the population was mixed while three per cent were Syrians, Europeans (dominating finance) and Chinese (World Bank 1999). This diversity encouraged rent-seeking by both core constituents and prospective coalition partners. Nevertheless, Trinidad and Tobago became independent in 1962 under an Afro-dominated party that ruled until

1986 by co-opting sections of the urbanised Indian community, notably its Christians (Owolabe 2007).

The government deployed its initially modest oil rent to industrialise by import substitution, but became more ambitious after sluggish employment growth sparked an extra-parliamentary challenge by black youths in 1970. It expanded state-led resource-based industry, drawing on sharply higher oil rent 1974-78 (an extra 39 per cent of non-energy GDP annually or 28 per cent of total GDP). The government also absorbed rent by expanding consumption. The rent deployment was vulnerable to misallocation because it was large relative to GDP and concentrated on the government (Isham et al. 2005). Domestic rent absorption did prove over-rapid (Table 2, Element 1) and heightened Dutch disease effects while the multiplier from resource-based industry was disappointing.

More specifically, the government saved abroad 70 per cent of the 1974-1978 windfall but domestic investment (12 per cent of the windfall) and consumption (18 per cent) were still too high, sapping investment efficiency and feeding inflation. Half the extra domestic investment went to infrastructure, one-third to resource-based industry (Gelb and Associates 1988) and the rest to nationalize hydrocarbon ventures and sugar to maintain rural jobs. Resource-based industry created few jobs (Mottley 2008), despite the government prioritising steel over LNG to maximise the domestic multiplier. The \$0.5 billion state-owned steel plant experienced a 30 per cent cost overrun and lost \$108 million annually 1982-1985 before being sold to Mittal for a nominal sum. However, joint-venture petrochemical plants with multinational firms were profitable but, as capital-intensive plants they employed few workers and stimulated little downstream processing. Far from diversifying, the economy grew more rent-dependent. The non-energy tradeables shrank during the 1974-81 booms from two-thirds of the expected share of GDP to one-half 1972-1982 (Gelb and Associates 1988, 88).

An even larger fraction of the 1979-1981 rent windfall, half, was absorbed domestically split evenly between consumption and investment. The government boosted consumption by cutting non-energy taxation (income tax and value added tax) and expanding subsidies on energy and basic foods, which absorbed one-quarter of hydrocarbon revenue 1981-1983. Subsidies also expanded to preserve jobs in sugar, infant industry and the public sector, which was the largest employer, although many jobs were make-work. The pace of rent absorption boosted inflation: construction costs for new schools and hospitals quadrupled (Element 2, Table 2)

Faltering hydrocarbon prices triggered a protracted growth collapse 1981-1993 (Table 4) that unseated the first post-independence government. Three successive governments were too fragile to restore fiscal balance. The growth collapse persisted as political parties bid for the support

of smaller ethnic groups, which prioritised their own demands and resisted cut-backs (Meighoo 2008; Owolabe 2007). Real wages rose sharply although productivity fell, causing domestic investment to halve 1981-1991. Real wages finally shrank when the IFIs insisted on belated cuts in regulatory rent (Tollison 1982): PCGNI declined one-third in the late-1980s (Table 4). Unemployment in Trinidad and Tobago doubled to one-fifth by 1990, just as Mauritius eliminated unemployment (IMF 2007, 3). The labour market turning point remained unachieved in Trinidad and Tobago in 2015 and its development benefits unrealised.

4.3 Rent-Dependent Development

When economic recovery finally commenced in Trinidad and Tobago in 1993, it was not through private investment to diversify the economy, but by expanding rent. A major investment commenced in natural gas liquefaction that was sustained by rising energy prices through 2004-2008. Once again, taxation rather than production dominated the economic linkages and concentrated rent on the government. Two-thirds of the windfall rent was saved, so that an extra one-fifth of non-energy GDP was absorbed domestically annually. The share of public expenditure in GDP remained well above comparator economies. Expenditure favouring rent-seeking unions, middle class voters and businesses was expanded by reversing IFI-backed reforms that had shifted public spending towards universal goods like health and education. Governance quality deteriorated, reversing the expected positive correlation between income and corruption control (Table 2, Elements 3 and 4).

The absorption of the 2004-08 windfall was inconsistent with inter-generational equity. The IMF (2007) estimated the hydrocarbon resource could sustain indefinitely a constant public sector deficit of four per cent of non-energy GDP, less than half the actual deficit. Domestic absorption was again evenly split between consumption and investment. Public consumption rose slightly more than private consumption to expand fuel subsidies, raise civil service remuneration and postpone privatization. One-eighth of the windfall offset cuts in non-energy taxation, lifting private consumption by five per cent of GDP. A structural labour surplus persisted: although unemployment fell below 5 per cent, this resulted from make-work programmes and volatile construction jobs (Central Bank 2009).

Public investment tripled comparing 2004-2008 and 1999-2003, and targeted human capital, but efficiency was low (IADB 2009). The public investment surge almost exactly offset a fall in private investment as LNG expansion ceased. Meanwhile, private investment in non-energy tradeables was discouraged for a third successive decade, not least by a one-third rise in the real exchange rate (IADB 2009). Trinidad and Tobago remained rent-dependent forty years after its first hydrocarbon

windfall. When energy prices faltered 2009-12 the non-energy sector could not sustain economic growth, which contracted -0.2 per cent annually.

By 2011 industry generated 61.5 per cent of GDP including 37.9 per cent in hydrocarbon rent but only 5.9 per cent in manufacturing. Agriculture produced just 0.5 per cent. Services generated 38 per cent of GDP (World Bank 2014) but 75 per cent of employment, more than half in the public sector bureaucracy and rent-funded make-work schemes. Within services, finance generated 13.2 per cent of GDP, but loose regulation resulted in a bail-out of the dominant domestic insurance company costing 17 per cent of GDP. Tourism generated seven per cent of GDP in 2011 including indirect and induced effects, and employed 9.3 per cent of workers (WTTC 2012b) but environmental deficiencies limit further growth.

The staple trap model explains how hydrocarbon rent raised incomes in Trinidad and Tobago but in an unsustainable fashion. Over-rapid rent absorption impeded competitive diversification away from hydrocarbons, while resource-based industrialisation actually intensified rent dependence. Unfortunately, US shale gas expansion has unexpectedly stalled exploration for conventional hydrocarbon reserves in Trinidad and Tobago, leaving existing reserves sufficient to sustain the economy for less than a decade.

5. Conclusions

The literature suggests that small economies underperform large ones while small island economies are further disadvantaged by their remoteness. Resource abundance should assist small economies to develop, but historically small resource-poor economies out-performed resource-rich ones. The case study comparison suggests policy is key. A resource-deficient small island economy can thrive with policies that promote growth in line with comparative advantage while easing social unrest. The primacy of policy is consistent with historical fluctuations in the global incidence of resource curse effects. The frequency of growth collapses among resource-rich economies intensified through 1973-97, reflecting impaired ability to absorb commodity shocks due to distortions arising from trade policy closure to promote industrialisation by import substitution, which policy reform then diminished.

Resource-poor Mauritius overcame remoteness and diseconomies of scale by embracing in 1970 then-unfashionable export manufacturing. The resulting low-rent development trajectory of competitive industrialization eliminated surplus labour to trigger systematic structural change that sustained: economic diversification; self-reliant social capital; and political maturation. Mauritius also

suggests that low rent may discipline policy because the elite (like that of Singapore) harnessed fear over Malthusian development prospects to support pro-growth policy.

The disappointing development of small resource-abundant economies reflects failure to restrain political pressure for over-rapid rent absorption. Hydrocarbon-rich Trinidad and Tobago absorbed its rent too rapidly, which triggered Dutch disease effects that postponed the labour market turning point, thereby retarding competitive structural change, impeding self-reliant social capital formation and reversing political maturation. Policy reforms adopted during the 1981-93 growth collapse were eased when the 2004-08 commodity boom intensified. Far from diversifying the economy, the rent deployment intensified rent dependence and created an illusory prosperity vulnerable to collapse.

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Table 1 Per capita GDP growth 1960-2010, by country resource endowment (%/yr)

Economic Phases	Pre-shock global growth 1960-73	Acute commodity price shocks 1973-85	IFI-backed reforms 1985-97	Post-reform recovery 1997-2010
Resource Poor^{1,2}				
Large	2.4	3.7	4.7	3.4
Small	3.5	1.8	2.4	2.4
Resource Rich³				
Large	2.7	0.7	1.9	2.4
Small, non-mineral	1.6	0.7	0.9	1.9
Small, hard mineral	2.2	0.1	-0.4	2.1
Small, oil exporter	4.0	2.3	-0.7	1.8
All Countries	2.7	1.6	1.5	2.2

Source: Derived from World Bank (2014).

¹ Resource-poor = 1970 cropland/head < 0.3 hectares and/or 40% exports minerals or hydrocarbons.

² Large = 1970 GDP > \$7 billion (proxy for domestic market size)

³ Resource-rich = 1970 cropland/head > 0.3 hectares and/or 40% exports minerals or hydrocarbons

Table 2 Principal Features of Stylised Facts Rent-Driven Development Models

Element	Low-rent Competitive Industrialization Model	High-rent Staple Trap Model
1. Elite incentives	Grow economy to gain wealth. Promote public goods + efficient markets. Align economy with comparative advantage.	Compete to siphon rent for personal gain. Press for rapid domestic rent absorption. Lobby to sustain patrimonial capitalism.
2. Economic trajectory	Labour-intensive manufactured exports. Early onset of labour market turning point. Rapid + competitive structural change. Early demographic dividend and low gini. Sustained rapid egalitarian PCGDP growth.	Over-rapid rent absorption fuels Dutch disease. Lagging employment creation Rent subsidises urban employment. Slow demographic transition + rising inequality. Rent-dependent growth risks growth collapse.
3. Social capital	Market nurtures self-reliant social capital. Social capital upgrades from bonding to linking. Growing reliance on resilient institutions.	Rent fosters dependent social capital. Reliance on political connections, not law. Elite bend institutions for advantage.
4. Political change	Structural change multiplies social groups. Social groups contest policy capture. Taxation feeds demands for accountability. Emergence of consensual democracy.	Politically-connected elite resists pluralism. Rent-seekers capture policy to siphon rent. Rent revenue blunts accountability demands. Polity ossifies and is brittle.

Table 3 Population growth and worker/dependent ratio: Mauritius and Trinidad and Tobago 1960-2010

	1960	1970	1980	1990	2000	2010
Mauritius						
Population growth (%/yr)	2.9	1.7	1.5	0.9	1.0	0.5
Age dependency, old	4.9	4.6	6.0	7.1	9.0	10.9
Age dependency, young	91.5	81.6	58.6	43.7	37.8	29.3
Age dependency, total	96.4	86.2	64.6	50.8	46.8	40.2
Trinidad and Tobago						
Population growth (%/yr)	2.3	0.9	1.5	0.7	0.3	0.4
Age dependency, old	6.6	7.6	9.0	9.5	9.6	11.7
Age dependency, young	79.8	76.2	56.1	55.4	37.7	29.2
Age dependency, total	86.4	83.8	65.1	54.9	47.3	40.9

Source: Derived from World Bank (2014).

Table 4 Structural Change: Mauritius and Trinidad and Tobago 1960-2010 (% GDP)

	1960	1970	1980	1990	2000	2010
Mauritius						
PCGNI (\$2005)	n.a.	n.a. ^a	1,816.3	3,088.5	4,522.2	6,117.5
Agriculture	31.3	16.2	13.1	12.9	7.0	3.6
Industry	24.7	21.9	26.2	32.8	31.0	26.3
Mineral rent	0.0	0.0	0.0	0.0	0.0	0.0
Manufacturing	18.4	14.3	15.8	24.4	23.5	17.0
Services	43.4	62.0	60.7	54.4	62.1	70.2
Trinidad and Tobago						
PCGNI (\$2005)	n.a.	5,984.6	8,672.0	6,066.5	7,999.2	14,437.4
Agriculture	11.8	5.2	2.2	2.6	1.4	0.7
Industry	51.9	44.1	60.2	47.2	49.5	62.7
Hydrocarbon rent: gas	n.a.	2.0	4.3	6.2	22.0	27.9
Hydrocarbon rent: oil	30.8	6.3	43.2	21.3	12.7	11.4
Manufacturing	12.6	25.5	8.6	14.0	7.3	5.8
Services	36.3	50.7	37.7	50.2	49.1	36.6

Source: World Bank (2014) and (1989), except Mauritius 1960 is for 1958 from Findlay and Weitz (1993, 225) and Trinidad and Tobago 1960 from Demas (1965, 108).

a. In 1968 the PCGNI of Mauritius was one-third Trinidad and Tobago.