9

ECONOMICS AND DEVELOPMENT

Geoff Bertram and Bernard Poirine

Introduction

Island economies, and especially small ones (population below one million), exhibit a remarkably wide range of economic structures built on a correspondingly wide range of development strategies, only a few of which fit conventional notions of 'economic development'. Common elements of 'islandness' may serve to define island economies as a general class, but there exist several distinct 'species' within that class, and a corresponding menu of strategic options open to islander communities in relation to the terms of their incorporation into the global economy.

The defining elements of small island economies are three: isolation, small size, and economic openness. Islands are physically accessible only by sea or air, which makes them rather more expensive to invade, occupy and integrate with neighbouring territories to form larger units. They also tend to develop close-knit communities which treasure their common identity and culture; this in turn underpins their exercise of a large degree of economic and political agency in the management of their local affairs, even when a particular island is nominally incorporated into a larger political unit (Baldacchino 2010). The survival of separate small-island jurisdictions reflects the political-economy consequences of being entirely surrounded by water.

From isolation and size follow scale and scope constraints on economic structure. Very small economic and political units, which on continents become submerged as provinces or local regions, take on a different character when bounded by sea. The network economies and strategic exposure to land transport which bind continental communities into large population units are truncated by the constraint of an aquatic boundary. Islands are the laboratory setting for the very small open economy as an ideal-type.

Isolation is related directly to physical distance from larger landmasses, which means that, where islands are clustered tightly in archipelagos close to a mainland, reducing isolation, they can more readily become absorbed into larger political units centred on the mainland and cease to be visible as separate economic units. Such is the situation of the 18,000 small islands within Indonesia, 6,000 of them inhabited. Of that country's 250 million population, the great majority are settled on four large islands (Borneo, Java, Sumatra, Sulawesi), leaving the remainder of the archipelago with an average population of around 5,000 per island. Similarly, there are over 7,000 islands in the Philippines, with most of the population on the two largest (Luzon, Mindanao) and the remainder averaging fewer than 5,000 per island. Because of their statistical

invisibility, the small-island constituents of these two countries are excluded from the quantitative material in this chapter, though many of the qualitative observations can be applied to them.

Underpinning any study in political economy must be some consideration of the range of formal political institutions in small islands and the varying degrees of local agency in policy-making. From that starting point, this chapter focuses on the crucial role of the external balance of payments as the key economic constraint, reviews the process of specialisation into divergent economic 'species', and presents a taxonomy built around the available balance of payments statistics.

Size, jurisdiction, strategies and sustainability

Which islands to include?

Any study of small island economies confronts immediately the difficulty of securing meaningfully representative statistical data. Many islands lie at or beyond the outer limit of coverage for the major international statistical yearbooks and databases and, as already noted, the vast majority of the world's inhabited islands are statistically-invisible geographical units within larger countries.

The economies to be analysed here comprise geographical entities that satisfy four criteria:

- they are completely bounded by sea;
- they have populations that do not exceed one million;
- at least some statistical and other useful data on their economies is available;
- they have clear jurisdictional identities, whether as sovereign states or as well-identified and somewhat autonomous sub-national territorial units.

An initial list can be assembled from the *CIA World Factbook* (Central Intelligence Agency 2017). The *Factbook* is a modern almanac whose compilers select places and topics for inclusion on the basis of informal, subjective, strategically-driven criteria which transcend the constraints of conventional statistical reportage. Its mandate is to provide information on territorial locales of potential interest to the US military and intelligence community, and its selection criteria are unencumbered by category limitations such as human occupation, sovereign statehood, minimum size thresholds, availability of reliable data, or membership of international agencies. The inclusion of a large number of non-sovereign jurisdictional units makes the *Factbook* especially suitable as a starting point for assembling a sample of small-island economies.

In 2016 the *Factbook* listed data for 249 locales, of which just over one-third (89 entities) are bounded entirely by sea. (Enclaves which display some 'island' characteristics but which have a land border with a contiguous neighbouring territory – such as Sint Maarten/St Martin, Nunavut (Baffin Island), and East Timor are excluded.) Two of these locales – Australia and Antarctica – are continents rather than islands, and 14 others are uninhabited (or virtually so, such as Pitcairn) or occupied solely by meteorological stations or military bases. Nine more (Indonesia, Japan, Philippines, Taiwan, Singapore, UK, Sri Lanka, Madagascar, and Cuba) are large countries with populations over five million. Another seven (Bahrain, Cyprus, Jamaica, Mauritius, New Zealand, Puerto Rico and Trinidad and Tobago) are between one and five million. This leaves 57 island jurisdictions with fewer than one million inhabitants for which the *Factbook* provides some description of their economies. This list includes all of the 26 small islands that are sovereign states and are full (voting) members in the United Nations General Assembly. The other 31 entities are small, sub-national island jurisdictions (SNIJs) with varying degrees of autonomy from their metropole.

Missing from the *CIA Factbook*'s coverage are some small islands that meet the four criteria listed above. Obvious cases are four departments or collectivities of France – Réunion, Martinique, Guadeloupe, St Barthélemy – and the Portuguese autonomous regions of Madeira and the Azores.

Other potential candidates for inclusion are to be found in the list of sub-national small islands and enclaves in Baldacchino (2010, Appendix, pp. 207–214) and in the online database of his 'Jurisdiction project' (SNIJ database 2017). Applying the four criteria above as a filter on the 132 sub-national entities listed in those two sources has enabled the addition of a further 13 small SNIJs. The final result, set out in Appendix 9.1, is a set of 26 sovereign small island states and 48 SNIJs.

Income and political status

'Sovereign state' is a reasonably clearly-defined political status, equated for our purposes with membership of the United Nations General Assembly. Constitutionally, the sovereign small islands range from constitutional monarchy in Tonga, through various forms of republican government, to the occasional military dictatorship (for example, periodically in Fiji). Non-sovereign, 'sub-national' jurisdictions, however, span a wide range of institutional arrangements, from the near-complete autonomy of freely-associated self-governing states such as the Cook Islands, to the politically integrated status of islands such as the Shetlands and Orkneys, Réunion (a department of France) or Aruba (one of the four 'countries' of the Kingdom of the Netherlands).

Figure 9.1, adapted from Kerr (2005, p. 504, Figure 1) brings together several key elements for the analysis of the political economy of small islands. At the right-hand end of the spectrum lie the territories with nominally the least political autonomy. At the left-hand end are fully independent nation states. The key dividing line between sovereign and non-sovereign entities is shown as membership or non-membership of the United Nations, but in the centre of the picture the group of 'states with limited independence and territories with state-like autonomy' share many characteristics that span the sharp dividing line.

In terms of formal ability to exercise domestic agency in policy-making, there is a steady progression from right to left in terms of increasing autonomy. Two external sets of forces operate however: one to offset this tendency across the spectrum and one to reinforce it for the sub-nationals. Globalisation reduces the economic policy space for all (but most obviously for sovereign nation states); while localisation (the widespread trend towards devolution of authority from the metropole to its peripheral SNJs) has its strongest effects as the sovereignty boundary is approached from the right (Baldacchino 2010, Baldacchino and Milne 2009, Baldacchino and Hepburn 2012).

While 'autonomy' is certainly a key dimension of the distinction between sovereign and non-sovereign economies, it is important not to assume that sovereignty is correlated with economic prosperity. One of the key stylised facts of small-island economics is that non-sovereign island economies exhibit higher incomes, and better scores on other aspects of human development, than sovereign small-island states (Bertram 1999, 2004).

Figure 9.2 sets out the per-capita income of our sample of 74 small island economies as at 2015, using data as close to that year as possible at the time of writing. Wherever available, we use per capita Gross National Income (GNI); but, in most cases, the available data is limited to per capita Gross Domestic Product (GDP). As in Figure 9.1, the 74 economies are separated into sovereign independent nation states on the left and sub-national entities associated more or less closely with metropolitan states on the right. Within each group, a distinction is drawn between islands that are inside the core of the global economy, and those that are not. Among

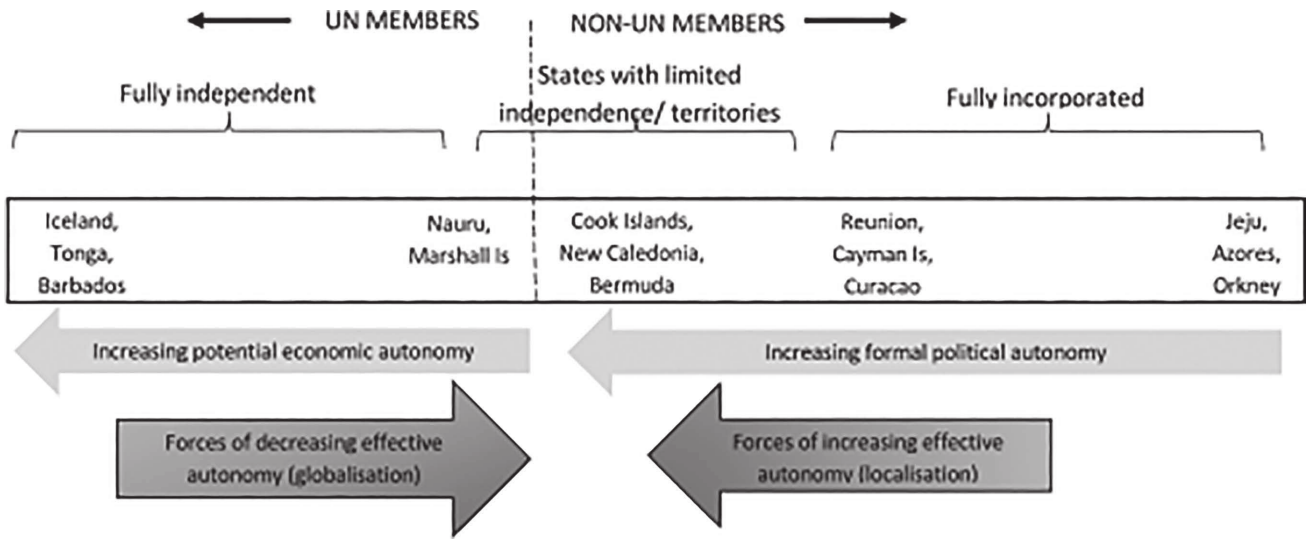

Figure 9.1 The autonomy spectrum.

Source: © Geoff Bertram.

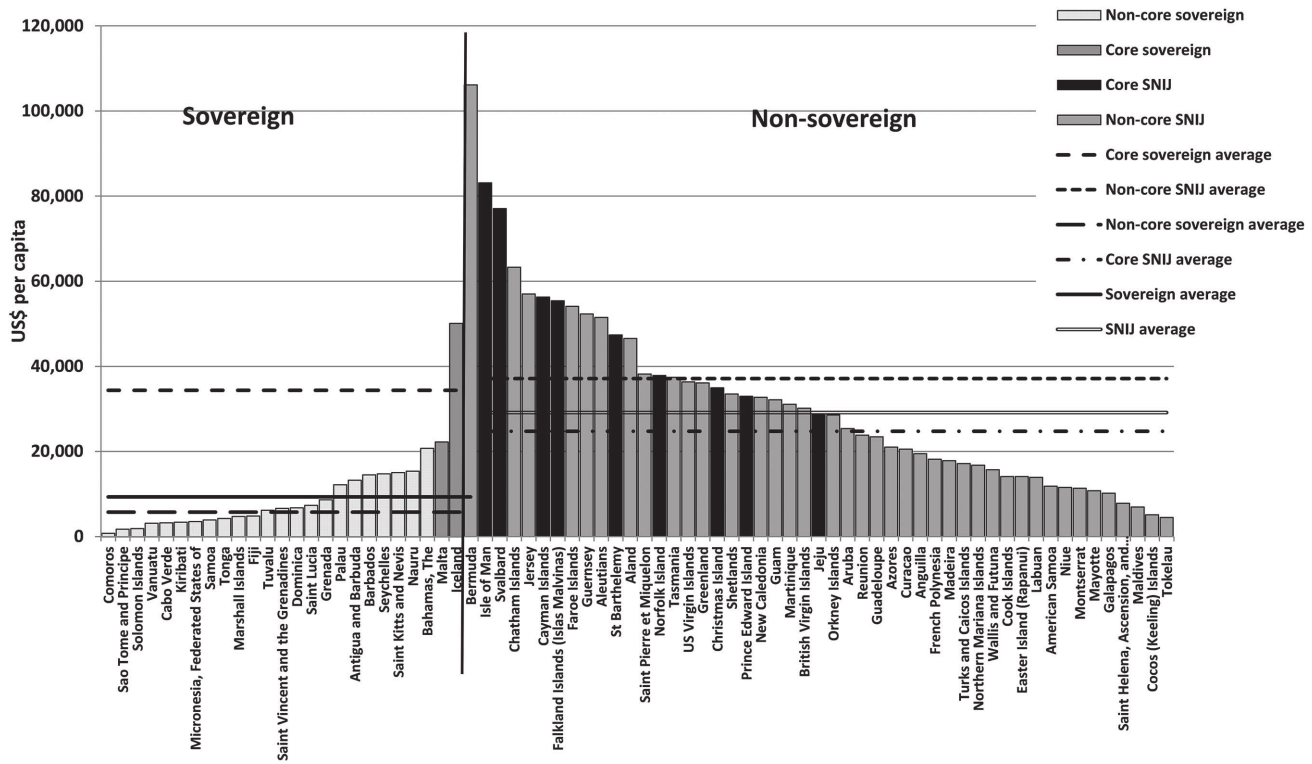

Figure 9.2 Per capita GNI or GDP for 74 small island economies.

Source: Appendix 9.1.

the sovereigns, core status is assigned to two that are actual or potential members of the European Union (EU): Malta and Iceland. For non-sovereign islands, core status is assigned on the basis of being located next to the metropole and tightly integrated into its economy. On both the sovereign and non-sovereign sides of the chart, higher incomes are associated with core status; but, both within the core and outside it, the non-sovereign economies have higher incomes than the sovereigns.

On each side of the chart, horizontal lines show the population-weighted average per capita income for, respectively, core economies, non-core economies and the full set. There is clearly much closer convergence between sovereign and non-sovereign islands within the core of the global economy than on the periphery. It is the big difference between sovereign and non-sovereign economies on the global periphery that gives rise to the substantial income differential across the whole sample.

The range of incomes within each set of island economies is, however, very wide. Amongst sovereign islands on the periphery, the ratio of per capita income of highest (Bahamas) to lowest (Comoros) is 26:1. Amongst peripheral non-sovereigns the ratio is 24:1 (Bermuda relative to Tokelau). (Note that in both cases the high extremes hail from the Caribbean.) With such widely-dispersed values (meaning large standard deviations in the data), average figures have to be treated with caution. Still, at least one clear conclusion can be drawn from Figure 9.2: national independence, whatever its non-economic attractions, is not an automatic recipe for greater prosperity.

Why sub-national islands tend to have higher incomes than sovereign ones remains an intriguing research question (McElroy and Albuquerque 1995, McElroy and Parry 2012, McElroy and Pearce 2006, Feyrer and Sacerdote 2009, Bertram 2004, 2015, 2016). It might be suggested that size makes the difference (that is, that sub-national islands are smaller than sovereign ones), and Figure 9.3 gives some visual support to this, though again with too much variation to allow a statistically significant generalisation.

Bertram (2015) assembled data back to 1900 on per capita imports, as a proxy for income, for 51 small islands, and concluded that the separation of small island economies into better-off present-day non-sovereigns, versus less well-off present-day sovereigns, dates back before their assignment of political status occurred (that is, prior to 1950, after which formal decolonisation got under way). This result contradicted previous work by Bertram and others in which it was argued that the unequal development status of independent versus sub-national small islands was *caused by*, as distinct from merely associated with, different political status. If we assume that economic development was the cause of present political status rather than its consequence, there are two competing theories of how unequal development affected sovereignty in the long run: Demand pulled or Supply pushed sovereignty.

The first "demande side" theory says that the driving factor behind independence was the demand for sovereignty from the island people: since it is easier to contemplate independence when the island is more developed, and its economy can stand on its own feet without foreign assistance, rich islands would have become independent first, leaving the less developed islands no other choice than political dependence to alleviate poverty. If that was the case, the remaining non sovereign islands should be poorer, not richer as we observe now.

The opposite "supply side" theory says that the driving factor was the supply of sovereignty by the colonial power: independence was willingly supplied to poor islands with few economic prospects. In that case, colonial powers would have let go of the poorest islands first (since they cost too much in terms of economic assistance), and would have tried to keep the richest islands as long as possible (since they were an economic asset, rather than a burden, to the metropolitan state). In that case again, the level of development causes the political status, but with the

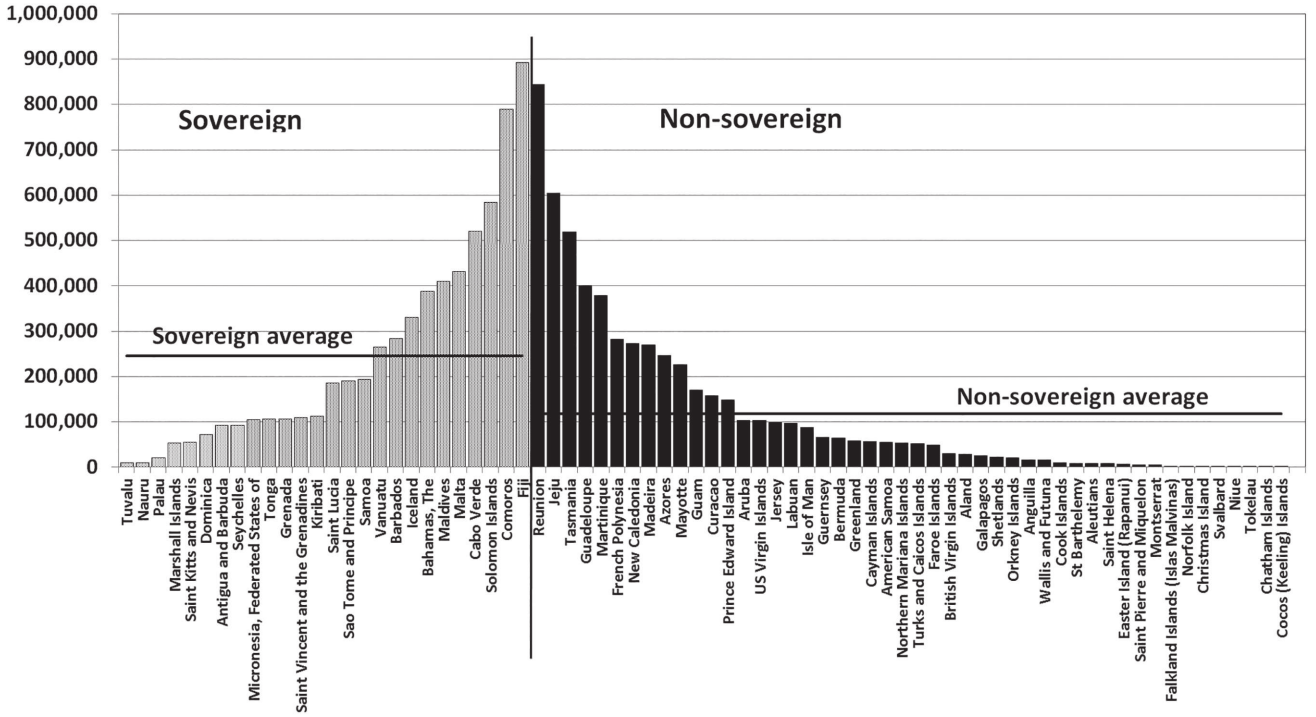

Figure 9.3 24 sovereign and non-sovereign small islands ranked by population at 2016.

Source: Appendix 9.1.

opposite result (that we find statistically) that the remaining non sovereign islands end up being richer than the sovereign ones.

The hypothesis that independence led to slower growth – which should have shown up as increasing divergence in 1950–2008 – was not supported; the data showed parallel paths of per capita imports (and hence implicitly per capita income) for independent and non-sovereign small islands over the six to seven decades since decolonisation. Further research beckons, particularly at regional level.

Size, specialisation and openness

Economies with fewer than one million inhabitants (including, incidentally, landlocked enclaves such as the European microstates of Andorra, Liechtenstein, Monaco and the Vatican, as well as small islands) tend to exhibit extreme specialisation into one or two globally-linked leading sectors which, once selected, determine the character of the economy as a whole. The selection process obeys not so much the orthodox theory of comparative advantage (in which an economy responds in passive fashion to exogenous relative-price signals in a competitive market) as a strategic game-theoretic process of self-selected hyper-specialisation, which Baldacchino and Bertram (2009) label 'speciation' to reflect the way in which the structure of the entire economy is adapted to achieve opportunistic colonisation of one or more niches of opportunity in the global system, on the basis of some absolute (as distinct from comparative) advantage.

'Speciation' refers to the sort of specialisation in which a community takes advantage of a niche of evolutionary opportunity by adopting a particular economic 'personality' with its own distinctive set of institutions, policy imperatives, and mutual understandings amongst the participating population. Economic speciation involves a conscious or quasi-conscious collective decision to embrace the economic phenomenon of crowding-out, with 'Dutch Disease' (the process by which one dominant export sector squeezes other sectors producing tradeable goods and services, by driving up the real exchange rate) treated as an evolutionary opportunity rather than a threat (Matsen and Torvik 2005).

The smaller and more isolated the economy, the greater the need to be open to the world market, and to specialise in a narrow set of income-generating activities in that market. Openness and hyper-specialisation follow from the absence of economies of scale, from high transport costs reducing the scope of trade opportunities, from the lack of a varied pool of mineral resources to draw upon, from the lack of 'agglomeration externalities' associated with the geographical proximity of clients and providers (too many empty cells in the input–output matrix), and from the fact that island residents, as sophisticated consumers, want to choose from a wide variety of goods not made locally.

'Vulnerability' is a red herring

The constraints of small size and geographical separateness are sometimes presumed to render islands particularly economically 'vulnerable' (Briguglio 1995, Streeten 1993, Guillaumont 2010) but this normative categorisation is both conceptually and empirically unhelpful. Conceptually, there are advantages as well as disadvantages of smallness and isolation. Empirically, on balance, island economies appear quite robust in a globalising world. Briguglio's 'vulnerability index' is positively, not negatively, related to per capita income: the more supposedly 'vulnerable' the economy, the higher is its per capita income (Armstrong and Read 2002a). Proponents of the vulnerability hypothesis have implicitly conceded the point by introducing a countervailing concept of 'resilience', placed in a contradictory dialectical relationship to vulnerability to

produce indeterminacy of outcomes (Briguglio et al. 2005). While it is true that the more specialised an island economy is, the more 'vulnerable' it is (because of exposure to wide swings in external receipts), the other side of this coin is that the gains from trade, and the realisation of scale economies in the specialised export activity, more than compensate.

The vulnerability-versus-resilience paradigm is also flawed in its underlying assumption that vulnerability is exogenously imposed whereas resilience is endogenously created as a response. A review of the components of the two indices reveals that exogenous and endogenous elements are found on both sides of the supposed dialectic. The image of vulnerability may be instrumentally useful in the rhetoric of political lobbying and aid justification, but lacks solid roots in economic reality.

While the vulnerability/resilience dichotomy gives no analytical leverage, the concepts of speciation and strategic flexibility go to the heart of the economic and geopolitical dynamics of island development.

Most islands – especially those with well-established links to metropolitan patron economies – enjoy external opportunities which are specific to the particular facts of each island's history as well as to the identity of its patron state (Bertram 2004, Bertram and Karagedikli 2004). In the era of decolonisation in the late 20th century, for example, the UK took a fundamentally different approach to the citizens of its island territories than did France and Portugal; the USA was different again (Hintjens and Newitt 1992). Modern island economic structures are path-dependent (Hampton and Christensen 2002, pp. 1668–1669) – outcomes of specific historical paths, not necessarily able to be imitated or reproduced by others, and commonly representing the end product of a cumulative series of collective strategic choices made by (or imposed on) the home community as a whole. This renders problematic any unidimensional conception of what 'economic development' means in an island context (Bertram 1986, Baldacchino 1993).

In treating the economic structure of small islands as a matter of strategic behavioural adaptation within the constraints of smallness, isolation and history, rather than of passive competitive response to exogenously-set world market prices, we are implicitly rejecting the idea that there is a simple linear relationship between country size and market power in the global arena. Conventional international economics distinguishes between 'large' countries which carry sufficient weight in global markets to operate as price-makers, and 'small' economies which are price-takers. But the tendency for market power to fall with population size does not extend down to the smallest size categories. At the very small end of the size spectrum, the strategic behaviour that is intrinsic to speciation creates and reproduces its own form of market power: what Baldacchino (2010, p. xxxi) calls "the power of powerlessness". Small islands can 'get away with' economic policies that would not be accepted from larger players in the global arena, because large countries see the possible adverse consequences for themselves as very small. Some examples:

- very high import duties (e.g. French Polynesia and New Caledonia);
- offshore financial services (Channel Islands, Cayman Islands, Bermuda, British Virgin Islands) (see Suss et al. 2002, Christensen and Hampton 2000, Shaxson 2011);
- securing duty free access to export to large markets such as the USA (Northern Marianas) or the EU (Mauritius);
- securing free or preferential immigration rights to selected countries because of past colonial ties (Comoros, Samoa, Cook Islands);
- providing Cyprus (EU) passports to Russian investors in exchange for a € 2 million investment in Cyprus, which amounts to selling to Russian millionaires the right of free circulation in all EU member states and easier access to other western countries.

This is not to say that all attempts at speciation are successful: consider, for example, Vanuatu's attempt in the 1990s to become an offshore financial centre. Nor do all successful mutations prove durable: the Northern Marianas' export manufacturing enclave which was highlighted in Bertram and Poirine (2007 pp. 335–336) collapsed spectacularly in 2006–2009.

External resources: the key to material prosperity

The more external resources that can be secured to fund imports, the higher the per capita income that can be sustained, because the small island economy's import capacity is the key determinant of its sustainable material standard of living; see Figure 9.4. The central strategic economic problem for a small island is not to choose between an outward-oriented development strategy and some inward-directed alternative. It is how to secure external resources to sustain imports. "In a small economy, the constraint imposed on growth by the external sector is a continuing phenomenon" (Demas 1965, p. 48; Hein 1988, p. 35). A small island economy cannot generate self-sustaining growth from its own internal market, because it usually lacks the raw materials and energy sources to develop a competitive industry, and because the small domestic market rules out economies of scale for local industry. In addition, the cost of imported inputs for local industries is increased by high shipping costs, lack of competition among freight service providers, and in many cases high import duties imposed to fund government budgets. The sustainability of a small open economy boils down to being able to finance its import requirements.

There are (at least) two ways of interpreting the tight relationship between external resources and per capita income shown in Figure 9.4. One approach is the Keynesian multiplier model, with external funds treated as the key injection of purchasing power. Each dollar of external funding flows into the local economy as additional demand for goods and services, which has

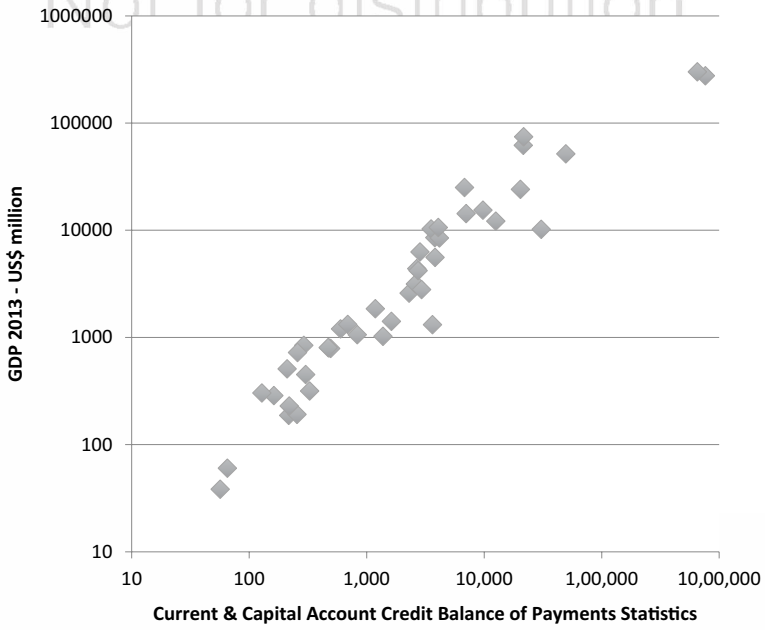

Figure 9.4 Relationship between external resources and per capita income in small island economies: GDP and current and capital account credit (2013) for 45 islands (US$ million, logarithmic scales).

a multiplier effect on local output. As domestic income and output rise, some fraction of the additional income flows back out into demand for imports. That fraction, the 'marginal propensity to import', determines how far the domestic multiplier effect can run before all of any new injection of external funding has been spent on imports. The lower the import propensity, the greater is the amount of domestic output and income that can be sustained by a given amount of external funding.

The other way of thinking about Figure 9.4 is in terms of a balance of payments constraint model, in which domestic demand presses always up against the limited supply of imports (set equal to the available external funding), with all possible import substitution pushed to its economic limit.

Whichever way the issue is framed, the prosperity of a small island population depends ultimately on its ability to secure external funding to pay for imports, and the sustainability of that prosperity depends on the long-term sustainability of the external source of funds. External resources – drawn from what Baldacchino (2006a) has labelled "the hinterland beyond" – are the economic base upon which small islands must build the growth and sustainability of their gross domestic product. To secure those resources without resorting to offshore borrowing, each small island economy must identify and occupy some niche or niches of opportunity in its 'external hinterland'. As will be outlined later in this chapter, a taxonomy of small-island 'species' can be assembled on the basis of their sources of funding for imports.

Comparative advantage submerged by trading costs

It is tempting, and common in the economic development literature, to equate external funding with merchandise export earnings, but in fact very few small islands in the modern world make their way as successful exporters in the traditional sense of producing goods to be transported abroad and sold in external markets. This point is demonstrated clearly by Figure 9.5, which assembles averaged 2010–2015 data for 53 small island economies to show the percentage of their imports of goods and services that is covered (funded) by the export of goods. Of the 53 economies, only five (three non-sovereign and two sovereign) fund more than 50 per cent of imports from this source. Three others have coverage ratios barely over the 40 per cent threshold, marked in the chart by a dashed line, which we use as a rough benchmark to identify export-led economies. Fully half of the sample in Figure 9.5 has coverage ratios lower than 10 per cent.

Iceland, American Samoa and the Faroes have large fisheries exports; Solomon Islands, Fiji and the Marshall Islands export a range of primary commodities (timber, palm oil, fish, copra and cocoa from Solomon Islands; sugar, mineral water, gold and garments from Fiji; fish, copra and coconut oil from the Marshall Islands). The US Virgin Islands' high coverage ratio in Figure 9.5 is dominated by the St Croix oil refinery, which closed in 2012, after which that economy's export coverage ratio dropped to just 21 per cent by 2015. Similarly Aruba's exports have fallen steeply since closure of its refinery in 2009, which brought its coverage ratio down to just 16 per cent by 2015 as its oil exports were reduced to bunkerage. Thus, while the 2010–2015 averages in Figure 9.5 make these two look like export economies, this no longer applies as of 2015.

Bertram and Poirine (2007, Figure 9.4) identified 21 merchandise exporters among their sample of island economies, but more than half of those were economies with more than one million population. Only ten of them qualified to be included in the small-island list compiled for the present chapter and, of these, the Northern Marianas and Malta have dropped out of merchandise exports (Northern Marianas has switched to tourism, while Malta now exports services rather than goods). No major new export economy has emerged in the past decade among the 74 included in Appendix 9.1.

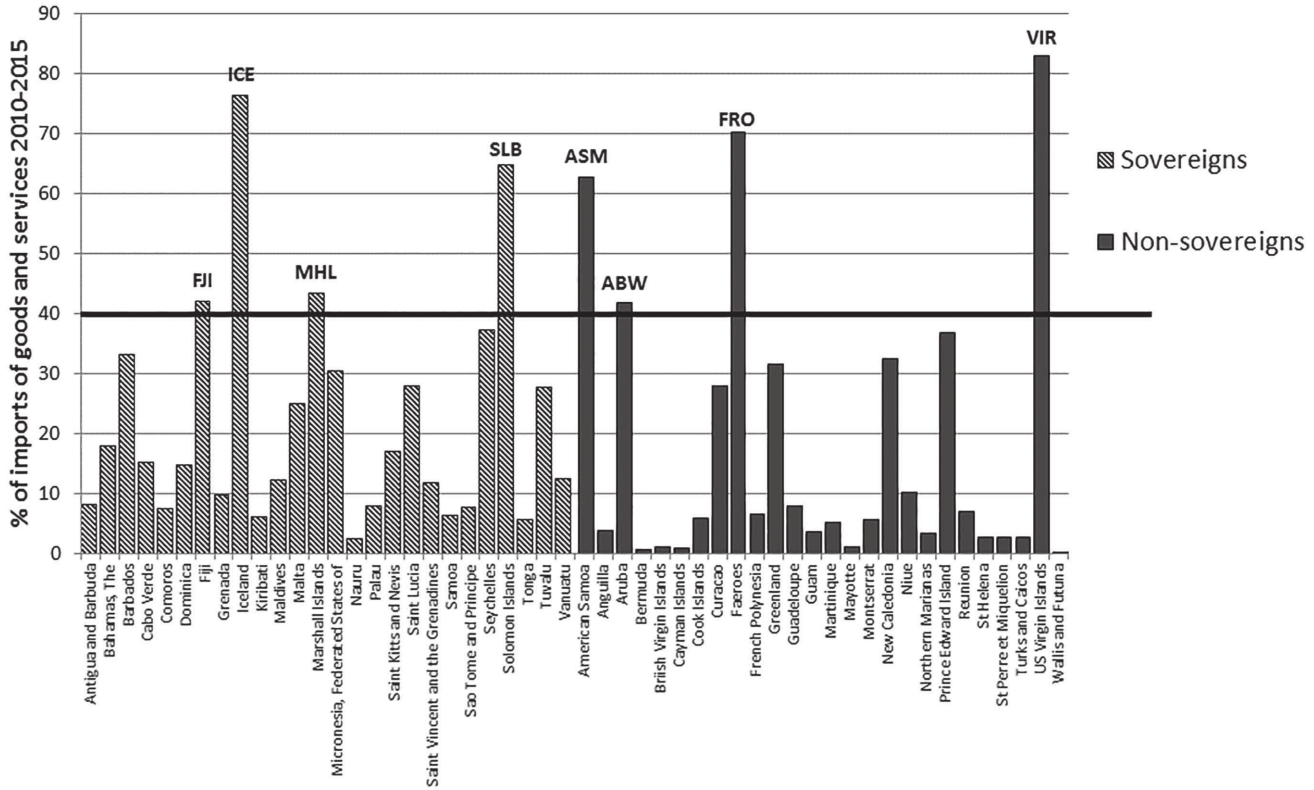

Figure 9.5 Coverage ratio' of merchandise exports relative to imports of goods and services.

Source: Appendix 9.1.

Winters and Martins (2004a, 2004b) and Winters (2005) have shown how the high transport costs associated with isolation, distance and small size (hence small shipments in a global freight transport system characterised by economies of scale) effectively restrict the potential for small islands to exploit the Ricardian comparative advantage that is taught to first-year students of economics. "Comparative advantage does not matter . . . if you do not trade internationally or if you cannot survive (literally) when you do" (Winters and Martins 2004a, pp. 350–351). Instead, small island economies rely on finding sources of absolute advantage that enable them to secure rents of one sort or another in the global economy.

Winters and Martins (2004a) drew two main conclusions from their analysis:

- First, "smallness . . . introduce[s not] marginal distortions that need to be countervailed, but an overall feasibility constraint. . . . [I]f unviable economies are to be made viable, an additional source of [external] income must be found" (Winters and Martins 2004a, p.376).
- Second, an isolated small island faced with high trade costs "could remain trading [i.e. importing] in two ways. It could receive a non-trading flow of foreign exchange – e.g. from accumulated assets, remittances or aid – which permitted some imports in the absence of exports. Alternatively or additionally, it could receive prices for its exports at preferential prices, which permit exports despite a fundamental un-competitiveness. Both these cases amount to living on rents" (Winters and Martins 2004a, p. 352).

The general point to be drawn from the Winters–Martins model is that any on-island economic activity whose earnings are squeezed by transport and other trading costs, and/or that uses inputs that incur such costs, will generate lower value-added than an identical activity carried on under competitive conditions in a metropolitan economy. The table below, adapted from Poirine (2007, p. 14), compares a hypothetical brewery in France with one in Tahiti that exports to France, assuming freight costs are 20 per cent of the value of exports and imports. All values are in French Pacific francs, roughly equivalent to US cents:

The export sales revenue received by the Tahitian producer has 20 francs (cents) deducted for the costs of getting the product to the French market. In addition, its costs of imported inputs and depreciation (to fund replacement of plant and equipment with imported machinery) are 20 per cent higher than those of the French producer. Value added in Tahiti is then 40 francs (cents) compared with 70 for the French brewery. If the Tahiti brewery pays its workers the same as French workers (Column 2 of Table 9.1) it makes a loss of 10. If it collects a

Table 9.1 Costs of isolation squeeze value added, cutting the return to at least one factor of production.

		(1)	*(2)*	*(3)*
		Brewery in France	*Brewery in Tahiti assuming wage parity*	*Brewery in Tahiti assuming profit parity*
.A	Price at factory gate	120	100	100
B=C+D	Total cost of production	100	110	80
A-B	Profit per unit	20	−10	20
C	Intermediate inputs and depreciation	50	60	60
D	Labour costs	50	50	20
E=A-C	Value added	70	40	40

margin big enough to make its return on capital equal to that of the French brewery (Column 3 of Table 9.1), it must pay its workers 20 francs (cents) rather than 50. The point here is that value-added determines the total income available to be shared among the factors of production – here, capital and labour – and both of these cannot be paid the same as their equivalents in France. The costs of isolation must be borne by one or both of them. (If the rate of return on capital is equalised across countries, then for any non-land-using industry it is the wage rate that must be lower the greater the effect of isolation.)

Of course, in the local Tahitian market, the local brewery has the advantage of being able to charge over 140 per bottle and still compete against beer imported from France. Yet, the small size of the local market rules out economies of scale (which means costs per unit will actually be above those of the French operator), and even selling at the higher price with unchanged costs, the island producer's value added will still be less than that of the French brewery. The higher the trading costs, the greater is the squeeze on value-added in the production of any traded good in a small island location under competitive conditions. Less value added per worker means in the end a lower GDP per capita, for a given ratio of workers to total population. This means that higher transport costs tend to depress GDP per capita as well as the wage rate, *ceteris paribus*.

Absolute advantage and rents

It follows from the preceding analysis that, in order to prosper, a small island economy must overcome the disadvantages of isolation and small size by taking advantage of some special asset that raises value added in its external-resource-earning sector(s) above that attainable by competing suppliers in metropolitan economies. In other words, it must have some source of absolute advantage in the form of a rent-yielding asset. In some cases, the asset may be part of the island's natural endowment; examples familiar from the small-island literature are fisheries, high-value mineral deposits, and desirable tourist destinations:

- A few small island economies such as Iceland and the Aleutians operate their own fishing fleets and fish-processing plants. More often, islands such as Tuvalu, Tokelau and Kiribati simply collect rental income from foreign fishing fleets operating in their exclusive economic zones.
- Since the exhaustion of Pacific island phosphate, mineral deposits are no longer of any economic significance to small island economies, with the sole exception of nickel in New Caledonia. In future, however, oil may become a leading sector for São Tomé and Príncipe.
- Tourism (and its various specialised niches) has been a booming industry in a large number of (mainly tropical) small islands in recent decades, enabling these island economies to collect rents for their climate, beaches, cultures, biodiversity and landscape.

Geographical location can also be a kind of natural resource. Poirine (1999) argues that because of their geographical position, small islands can have an absolute advantage in the production of national defence for the benefit of a large country. Such a supply of strategic services can then be treated as an export, which is of no utility to the islanders but of great utility to the patron country. Missile or nuclear testing facilities and military bases on politically-aligned small islands save the need to maintain expensive aircraft carriers in the region. Small islands similarly gain from exporting other services such as financial services, shipping lines, internet services, and fisheries access to exclusive economic zones. All these can thrive on the basis of absolute advantage arising partly from geographical distance from the rest of the world.

To generalise this in terms of standard trade theory, Figure 9.6 shows a small island economy's 'production possibilities' as the curved line GG' showing combinations of two goods, X and Y, that can be produced with the available resources. We combine all the goods that are of value to the local population – food, clothing, shelter and so on – into a composite good Y and show this up the vertical axis. The potential export good X is plotted along the horizontal axis. Good X could be phosphate, bêche-de-mer, or black pearls (all unvalued locally but prized elsewhere in the world); or the experience of being on the island (free to locals but valued highly by foreign tourists), or the provision of naval port or communication facilities (valued highly by geopolitical patron states). The zero value placed by the local community on the X good is shown by the horizontal lines ('indifference curve') I_1, I_2, and I_3. An indifference curve shows the various combinations of the two goods that leave the consumer (here, the small-island community) equally happy (well off). A horizontal indifference curve means that having more of good X makes no difference to the local community's welfare. More of good Y, in contrast, shifts the community to a higher level of happiness, such as that shown by I_2. In the absence of international trade, the self-sufficient economy would produce OG of good Y and none of good X, achieving the welfare level I_1. The higher welfare contours I_2 and I_3 show that the islanders would be better off if more of the Y good were available.

Suppose that the small island is Nauru, that good X is phosphate, and that good Y is food. Nauruans can grow food or dig phosphate, but they have no use for phosphate. The slope of the straight line PQ_1P shows the rate of exchange between units of food and units of phosphate on the world market. If transport costs are zero, and local resources are reallocated to produce the combination of phosphate (X) and food (Y) shown by point Q_1, then by exporting phosphate in exchange for food the Nauruans can consume the quantity of food OP, greater than the OG that they could get without trade. Their welfare is therefore increased from I_1 to I_3.

If transport costs are high, however, the trade line PQ_1P' is no longer valid (Winters 2005). Less food can be imported for any given amount of phosphate exports, because the price of imported food is augmented by the cost of transport to Nauru while the returns from phosphate sales at world prices are reduced by the need to cover transport costs. Trading possibilities are now the kinked dashed line BQ_2B', and the highest attainable welfare (shown by I_2.) is now

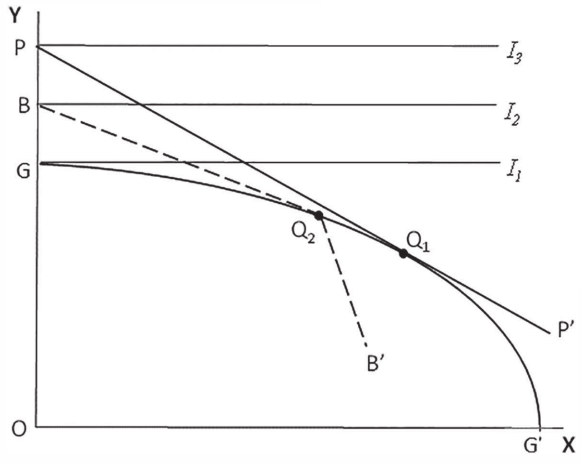

Figure 9.6 Economics of phosphates, nuclear test sites, tourism.

reached by producing at Q_2 and trading phosphate for food to achieve food consumption of OB: still a gain from trade, but much reduced by transport costs.

This tendency for transport costs to reduce the gains from trade, and possibly to negate them altogether, is a large part of the explanation for the small number of successful commodity exporters in Figure 9.5. Trade opportunities become fewer the higher are trading costs (reflecting the distance from trade partners); and per-unit trading costs tend to be higher for smaller traded volumes. This has been documented by an abundance of econometric literature on the (trade) 'gravity equation': trade between any two countries has been repeatedly shown to increase with their respective economic mass (GDP) and to decrease with the distance separating them. Both size and isolation thus work against small island exports.

The gains from trade will be even less if the potential export good is one that the island population themselves value (that is, if the indifference curves in Figure 9.6 were to slope down rather than being horizontal). The discussion above explains why in most small islands only a very few export items make up the bulk of the value of total exports, and why those exports are often things of little value to the islanders, such as phosphate, nickel, copra, pearls, or strategic services. It should be noted that distance is also a handicap for tourism exports. The gravity equation applied to tourism on a sample of 211 countries has shown that when the distance between any country pair doubles, the flow of tourists between them decreases by about two-thirds, *ceteris paribus* (Dropsy et al. 2015).

For small islands whose limited natural resource endowments rule out those sorts of export options, absolute advantage can often be created by exercising, through the agencies of local government (or of transnational firms located in the island): what Baldacchino and Milne (2000) have labelled "the resourcefulness of jurisdiction". Examples are tax havens, offshore banking, company registries and ship registries, even philatelic sales and high level internet domain names. In one or two cases, absolute advantage accrues from the historical location on a small island of some private company that possesses special attributes, such as the international shipping operation based in Åland; but these cases are rare.

Finally, three rent-yielding assets of a different kind must be borne in mind: entitlements to international aid, migrant diasporas that send back remittances to the home economy, and sovereign wealth funds (such as Kiribati's Revenue Equalisation Reserve Fund) which return a stream of dividends. Aid and the returns on sovereign funds mostly flow into the government accounts, expanding the public sector of the economy. Migrant remittances, in contrast, flow into the small-scale household sector and translate into increased private sector consumption and investment.

Income distribution and the lure of industrial development with no comparative advantage

How exactly are the costs of isolation, and the benefits of rent flows, distributed amongst land, labour and capital? This will depend partly on the precise source of rent, and partly on how open are the markets for factors of production (land, labour and capital). Land, obviously, is not footloose and cannot be moved to a more profitable location; hence the rental return to land is the most vulnerable to the Winters–Martin squeeze on value added (which is why primary commodity exports are viable only where high-value natural resources can be appropriated at low or no cost to producers, and/or where the product has very high scarcity value in export markets; commercial fisheries in Iceland and the Aleutian Islands, nickel in New Caledonia).

Turning to labour, the crucial issue is labour mobility: that is, whether workers in the small-island economy have the option of migrating to work overseas. Only in a closed labour market

can the wage be pushed down below the international opportunity value of labour – what workers can earn as migrants overseas. International mobility of labour varies greatly across the small-island world, ranging from cases where islanders have shared citizenship and hence free access to the metropolis (for example Cook Islands, Overseas France, Niue, American Samoa, US Virgin Islands, the Azores) to islands where migration outlets are mostly closed. Kiribati is an extreme example of the latter, with only limited access to offshore employment opportunities in, for example, international shipping (Borovnik 2006), and with tight quota restrictions on migration to New Zealand and Australia.

If labour is often footloose, capital is always more so. Hence, depressing the rate of return on capital (as in the second column of the brewery example of Table 9.1) is an incentive for investors to take their money elsewhere. The combination of high trading costs and relatively incompressible wages has spelt doom for numerous attempts to secure 'economic development' for small islands by promoting a modern industrial capitalist sector to imitate those of advanced industrial economies. Even 'rich' islands have very few industries and a large service sector.

Modelling the small-island labour market

In a closed labour market in long-run equilibrium, the real wage will tend to adjust endogenously to bring the demand for labour into line with the supply. This means that wages could be depressed far below the levels prevailing in the wider world (see, for example, the outcome in the right-hand column of Table 9.1). In contrast, in a fully open labour market, the level of wages available in the wider world and accessible to migrants provides an exogenous benchmark, which puts a floor of sorts under the real wage rate in the island economy. In addition, in small islands where the government sector depends to a large extent on external funding, the terms of that funding constitute another exogenous element in the local labour-market equilibrium.

Figure 9.7 shows the economic structure of a small island labour market open to migration. The vertical axes on both sides of the diagram show the real wage rate in local currency terms. The wage available to labour in the outside world (the value of the option of emigrating) is shown by the horizontal line at the wage rate w^* which is equal to the wage rate in the migrant

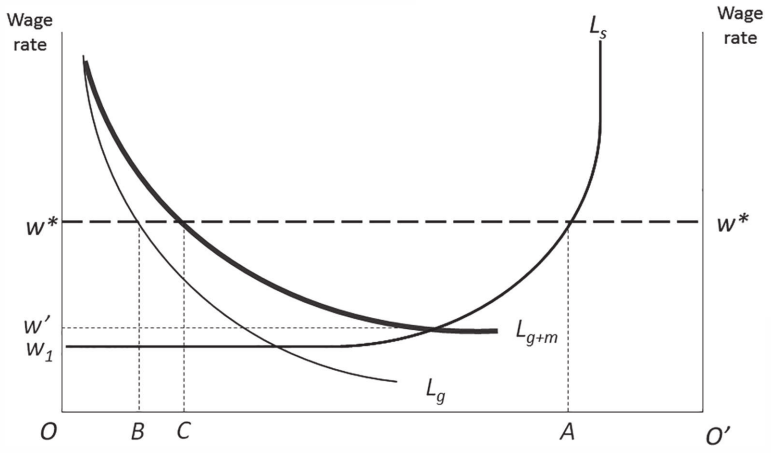

Figure 9.7 Economic model of an open small-island labour market.

Source: Bertram (1986, p. 816).

destination, discounted for the costs and risks of moving out of local employment into the diaspora. The total working population of the islander community (including both island-resident workers and migrants working overseas) is shown by the length of the horizontal axis *OO'*, and this total labour force is allocated across four sectors on the basis of sectoral labour demand.

The line L_s is the demand for labour in subsistence/village activity, drawn with respect to the right-hand origin of the diagram at *O'*. Because this curve represents the willingness of the village sector to release labour as the wage rate rises, it can be read as a supply curve of village-sourced labour, when read with respect to the left-hand origin at *O*. Along the horizontal segment at its left-hand end, L_s represents a 'traditional subsistence' minimum income w_1, while at its right-hand end it turns vertical, reflecting the minimum labour input required to sustain the viability of the village economy. Subsidies to 'traditional' life, along with tourist demand for the cultural and heritage values embodied in the village, shift the L_s curve to the left, increasing the proportion of the population sustained in the village sector.

The curve L_g is the government sector's demand for labour. Its position is determined by the size and structure of the government budget (including aid funding); increases in the government budget shift the curve to the right, drawing in a greater proportion of the available labour. In Figure 9.7, the curve is drawn assuming that the government has an exogenously fixed total budget to spend on wages and salaries. (The curve is therefore a rectangular hyperbola, which means that all points on the curve represent the same total spending on wages and salaries in the public sector.)

Finally, the curve L_{g+m} shows the total modern-sector demand for labour, constructed by adding the capitalist private sector's labour demand L_m to that of the government sector.

For a first analysis, assume that the real wage rate in the small island economy is equalised across sectors so that all local wage rates are equalised with the external opportunity wage $w^\star$, and that the labour market is fully open so that all labour not utilised in the village sector, the government, or the capitalist private sector will migrate to work overseas. Under these assumptions, in long run equilibrium the public sector employs *OB* of the labour force, the capitalist private sector employs *BC*, the village economy holds *O'A* of labour, and the migrant diaspora accounts for the remainder, *CA*.

If one or more of the above assumptions do not hold, the model is easily adjusted to capture particular real-world situations. In the French overseas island departments and collectivities such as French Polynesia and Reunion, for example, the government sector's pay rates are set (and funded) from Paris at levels well above anything available in other sectors. This produces the labour-market structure shown in Figure 9.8. Here the public sector pays a wage rate w_g dictated exogenously (by the metropolitan government in Paris) and employs an exogenously determined number of workers OB. The government demand for labour L_g is therefore a horizontal straight line with length equal to OB. Again the total labour force OO' is allocated across four employing sectors, but the existence of a high public-sector wage holds out an attractive alternative to out-migration so that instead of a diaspora, the economy exhibits unemployment: a pool of workers queuing up in the hope of securing high-paid local employment (see Harris and Todaro 1970 for original analysis). If the private capitalist sector pays a wage of w_2 established (say) by some sort of bargaining, then unemployment is AC (the distance between L_s and L_{g+m} at that wage rate). If the local private sector pays the lower wage w_0 then open unemployment is smaller and some out-migration would be likely.

As a construction drawn from neo-classical economics, the basic diagram abstracts from real-world details (especially in relation to the behavioural reactions of the village sector and the assumed uniform level of skill and aptitudes across the population) but it does capture underlying forces at work in all small island economies, and is readily adapted to different real-world circumstances.

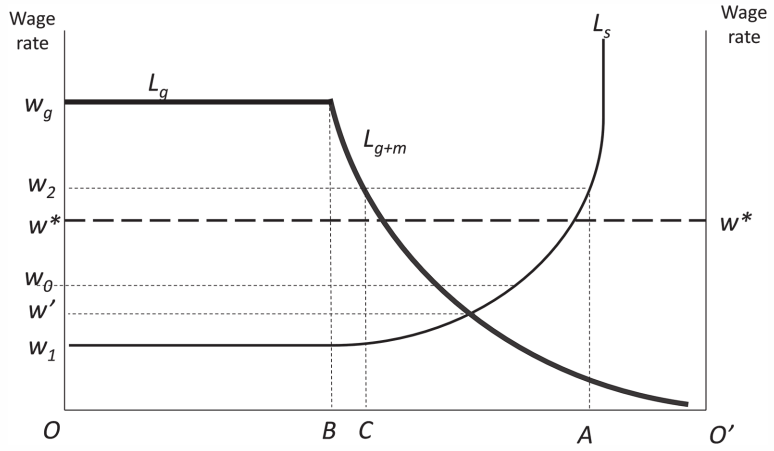

Figure 9.8 Small-island labour market with a high-wage government sector.
Source: Poirine (1993).

Dropping the assumption of an open labour market, for example, involves simply removing the $w^\star w^\star$ line from Figures 9.8 and 9.9, leaving the island labour market to settle at the lower closed economy equilibrium wage of w' with expanded government and village sectors plus a low-wage private sector – essentially the Kiribati situation.

The model has clear policy implications. Increasing official aid or financial transfers shifts the L_{g+m} curve to the right, drawing labour out of either the diaspora, or unemployment, or both. Increased remittances (and/or NGO-funded aid flowing into the village sector) shift the L_s curve to the left, reducing out-migration and/or unemployment while expanding the village sector, leaving government and private sectors unaffected (to a first approximation). And so on: different outcomes can be modelled by changing the shapes and positions of the curves.

The quest for rents

Aid as a form of trade

Figure 9.9 shows that sovereign islands receive more aid per capita when their populations are smaller, and that non-sovereign islands receive more aid per capita than sovereign island states, whatever their population. Poirine (1999) points out that small islands have an absolute advantage in the export of 'strategic and diplomatic services' to large countries. Many islands are strategic because they can be logistic stepping stones in case of conflict: think of Hawai'i, Guam and most of the Pacific islands during the Second World War; Eniwetok, Bikini, Mururoa and Fangataufa where long-range missiles and nuclear testing took place for a long time; Guam again during the Vietnam war. Others, such as the Falklands in the 1980s, become strategic emblems in their own right.

Islands can make up for the lack of aircraft carriers (China, for example, is building artificial islands to control the South China Sea), and giving aid to a small island population in exchange for the privilege of using a military base saves the very high cost of maintaining an aircraft carrier.

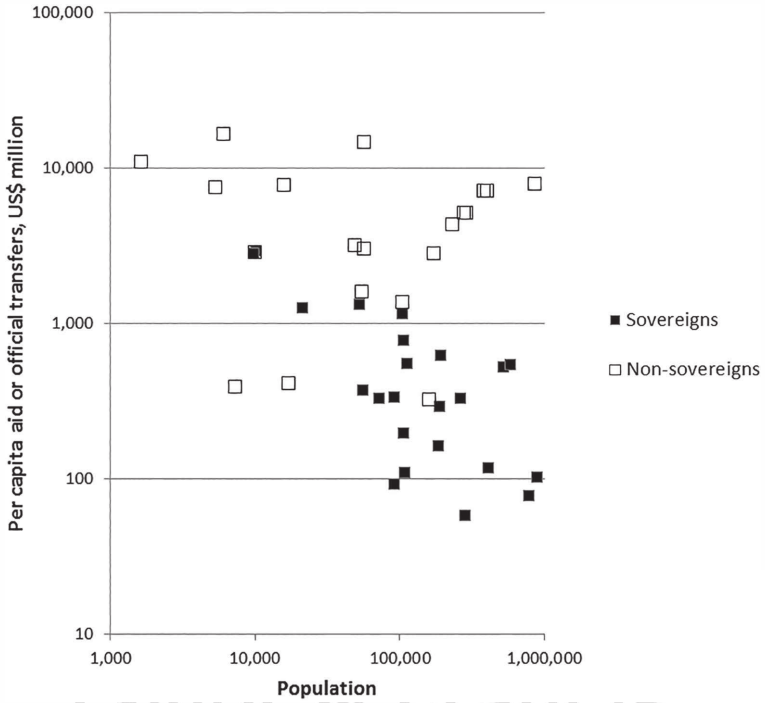

Figure 9.9 Aid and official transfers per capita in 43 small island economies.

Source: Appendix 9.1.

Similarly, islands can serve as secure prisons. Nauru, for example, operates a large detention camp for would-be migrants and asylum seekers who are refused entry to Australia, and is able to negotiate a rent in exchange for such strategic services.

Because the value of a strategic service has nothing to do with the number of people living on the island, it follows that, the less populated the island, the more it will receive per capita in exchange for the rent of strategic services from the large country, and hence the higher the probability that the small island government will accept the deal.

Since sovereign countries may in theory repeal such treaties allowing exclusive military use of their territory and airspace (as happened in the Philippines for Olongapo and Clark US bases) while non-sovereign territories may not do so, it is safer and more valuable for the patron country to put funding into its own island territories rather than sovereign islands. In some cases, however, the required strategic asset has been simply seized by the dominant power at the expense of the local population rather than for their benefit; consider the case of the British Indian Ocean Territory, which hosts the Diego Garcia base but whose indigenous population has been relocated, against its will, to Mauritius (Vine 2011).

The postcolonial transition

In the colonial era prior to 1950, small island economies generally fitted into a standard model driven by the needs of the colonial power. Their primary function was to produce commodity exports, especially of tropical products, as inputs for the industries of the metropolitan economy. A secondary role was geopolitical: to fly the flag of the colonial power in distant corners of the world.

For reasons discussed above, commodity exports from an isolated location with a small resource base usually could not sustain the material living standards of small-island populations at levels aspired to in the post-war world. In the decolonisation era, small island economies shifted towards new rent-yielding leading sectors; and as the field of external opportunities shifted over time, they had to follow those shifts and exploit new niches of opportunity in the global economy. As Baldacchino (2011 p. 236) describes it:

> a "strategic flexibility" approach . . . explain[s] how actors practise intersectoral migration: cleverly shifting focus, interest and scope, not just out of necessity (reactively) but in 'smelling' promising opportunities (proactively). In a scenario where change is taken as a given, managing and coping with such change become the hallmarks of economic survival: just like surfers handling the ocean swell.

New economic structures were not always or solely the work of domestic change agents, of course. In several cases, outside agencies drove the processes of speciation and adaptation. The emergence of the Cayman Islands as an international financial centre after 1965, for example, was driven mainly by the quest of US financiers and businesses for a secure offshore tax haven, encouraged by the Bank of England and the City of London (Shaxson 2011 pp. 90–96, 132–136, 211–215). On a grander scale, as Gay (2012) has described, the ongoing willingness of the French state to provide massive financial transfers to France's overseas departments and collectivities has been the key driver in holding up salaries and wages, government spending, and real exchange rates in those island economies, narrowing the opportunities for sectors such as tourism to compete in world markets (Poirine 2011 Chapters 7 and 8).

Endowments and development strategies: specialisation and 'speciation'

A key requirement for sustainability in a situation of hyper-specialisation is flexibility and rapid response capability. Retention of the ability to mutate, to undertake a rapid shift to a different 'species' in response to shifts in external opportunities, remains a crucial reserve asset in the small island's portfolio of social capital. The greater this evolutionary flexibility, the more extreme can speciation become without endangering the long-run survival chances of the home economy. Cases do emerge from time to time of small islands caught in development culs-de-sac, one example is the struggling economy of São Tomé e Príncipe, which has been unable to carry through its expected switch from cocoa exporter to oil producer due to slow progress in its joint venture with Nigeria to develop the Gulf of Guinea oilfields. Other examples refer to situations where attractive transition opportunities are blocked by externally-imposed constraints: cases in point include the intervention since 1999 of the OECD's Financial Action Task Force to restrict the emergence of unregulated offshore financial centres (Hampton and Christensen 2002, Financial Action Task Force 2005a, 2005b); and the blockage of all except one of the emigration pathways out of Kiribati in the quarter-century following independence in 1979, which for a long time left seafarers as the only outwardly-mobile group in the labour force (Borovnik 2006).

Strategic flexibility in action

A central component of the social capital of islander communities is therefore their flexibility and adjustment capacity. In practice the 'sustainability' of island economies has very little to do with self-sufficiency or environmental protection, with which it is often equated. The basic

sustainability requirement is the social capital – people (including diasporas), institutions, and collective willingness to adapt (Baldacchino 2005) – that underpins effective collective response to strategic opportunities, and adaptability in the global arena.

Three examples of transition from one strategic niche to another follow below: offshore finance in the Cayman Islands; the Northern Marianas' transitions from military base to tourism, then to garment manufacturer, and then back to tourist economy; and the Cook Islands' transition from MIRAB to SITE.

Caymans: from MIRAB to offshore bank

The Cayman Islands are today one of the world's major financial centres and tax havens. In 2008, there were more than 93,000 companies registered there, including almost 300 banks, 800 insurers, and 10,000 mutual funds. Foreign assets of over US$4.1 trillion held in the Cayman Islands are 1,500 times the GDP of around $3 billion. 60 per cent of global hedge fund assets are held there (Fichtner 2016, p. 1035, Hampton and Christensen 2002, p. 1659). There are no direct taxes in the Cayman Islands: no income tax, company or corporation tax, inheritance tax, capital gains or gift tax. There are no property taxes or rates, and no controls on the foreign ownership of property and land. The government charges stamp duty of 6 per cent on the value of real estate at sale, with reduced rates available for Caymanians. There is a 1–1.5 per cent per cent fee payable on mortgages. The key revenue source is an annual licensing fee paid to the government by companies registered in the jurisdiction. The government's total revenue runs at over US$800 million per year and there is generally a budget surplus (Cayman Islands Government 2016).

According to legend, the Cayman Islands's tax-free status originated as an 18th-century royal grant in reward for rescuing a shipwrecked member of the British Royal Family (Markoff 2009, Part 1; Brittain-Catlin 2005, p. 14). That was converted into a market niche by three events during the decolonisation period: separation of the islands from the colony of Jamaica (then moving to independence) in 1959; subsequent entrenchment of Crown Colony status in the 1960s; and the expiry of pre-existing tax treaties with the USA in the late 1960s, which opened the Cayman Islands up as a tax haven for US corporations ranging from medical insurers to Enron.

In the mid-1960s the islands had only a single bank, no telephones, and a population of 8,000 (Brittain-Catlin 2005, p. 7). For the preceding half-century, a MIRAB (Bertram and Watters 1985) structure had prevailed, with cash incomes sustained by remittances from seafarers. In 1937, half of the working-age male population was employed in international shipping, and the main post-war employer until the 1960s was a supertanker operator (Brittain-Catlin 2005, p. 17).

The transition from migrant-remittance economy to offshore financial powerhouse took only about a decade (Roberts 1995, Markoff 2009). The accountancy, legal and business skills required to negotiate financial deals and fine-tune Cayman law to the needs of finance capital were acquired or hired, infrastructure investment completed, local legislation passed, and an international reputation for confidentiality and security built up at breakneck pace, even though the new strategic direction was one which had been unforeseen ten years earlier. Dislocation there certainly was, but the Cayman Islands successfully made the transition from one of the poorest to one of the three richest Caribbean island economies (along with Bermuda and the British Virgin Islands).

The main industries are financial services, tourism, and real estate sales and development. In total, services were estimated to account for 93 per cent of GDP in 2016 (CIA 2017). Tourism expenditure (largely by finance-centre customers) of US$500–600 million annually is a

mainstay of the balance of payments. Aid flows and migrant remittances are zero, merchandise exports account for not more than US$47 million p.a., and the islands' annual import bill of around US$600 million is almost entirely funded by the offshore finance sector and its tourism appendage.

The Cayman Islands have been among the most diplomatically successful offshore financial centres in confronting and adjusting to the OECD's drive to clamp down on rogue tax-haven and money laundering jurisdictions, and also to the increasing regulatory activities of the US and UK governments with regard to tax havens. In 2000, the Caymans secured early exemption from the Financial Action Task Force's list of 'non-cooperating jurisdictions' (Hampton and Christensen 2002, p. 1670 note 9), by June 2001 they were fully 'delisted', and from June 2002 they were no longer subject to FATF monitoring (Financial Action Task Force 2005, p. 31).

Since 2005, the Cayman Islands have had a fully informative tax information exchange arrangement under the European Union Savings Directive (EUSD) with all EU member states. In 1990, Cayman entered into a transparent all crimes Mutual Legal Assistance Treaty with the USA and, in 2001, a comprehensive US Tax Information Exchange Agreement. In 2013 the OECD found the Cayman Islands to be 'largely compliant' with international standards of tax information exchange (Fichtner 2016, p. 1038).

Northern Marianas

The Northern Marianas are a Commonwealth territory of the USA. In pre-1945 Japanese colonial times, the islands were an agricultural export economy. Following the Second World War, they became a US military base, then from the 1970s a tourist destination for Japanese holidaymakers. Tourism peaked in 1996 and thereafter declined as Japanese recession and the Asian economic crisis took hold. From 727,000 in 1997, visitor arrivals were down to 425,000 by 2002. But as tourism fell, manufactured exports rose.

The US Office of Insular Affairs (2006) recorded that:

> Garments produced or substantially transformed in the CNMI enter into the United States customs territory free of quotas and duties. Under the Covenant, imports into the U.S. from the CNMI receive the same treatment as imports from Guam; however, the CNMI was able to develop a garment assembly industry because it is not subject to U.S. immigration laws, as is Guam. Garment shipments to the United States increased from under US$200 million in 1990 to over US$1 billion in each of 1998 and 1999.

Up to the mid-2000s, the competitiveness of light manufactured exports from the Marianas rested upon the availability of a low-wage immigrant workforce, recruited mainly from the Philippines and China, and concentrated on the main island of Saipan, where the locally-born population was quickly outnumbered by migrant workers. The jurisdictional niche that enabled the CNMI to become a manufactured exporter was highly specific and a product of the negotiations leading to commonwealth status: the treaty-based absence of visa requirements for migrant workers to enter from Asia, combined with duty-free onward access to the US market for manufactured goods (but not migrant workers). Migrant remittances flowed out from the Marianas towards the source countries in East Asia.

Figure 9.10 shows the subsequent events. In 2005 the USA relaxed its quota restrictions on Chinese imports, and major US retailers switched to the new cheaper source of supply. In four years, manufactured exports from the Northern Marianas dropped 75 per cent. Manufacturing employment which had peaked at around 17,000 in 2000, fell to 700 by 2010 (Central Statistics

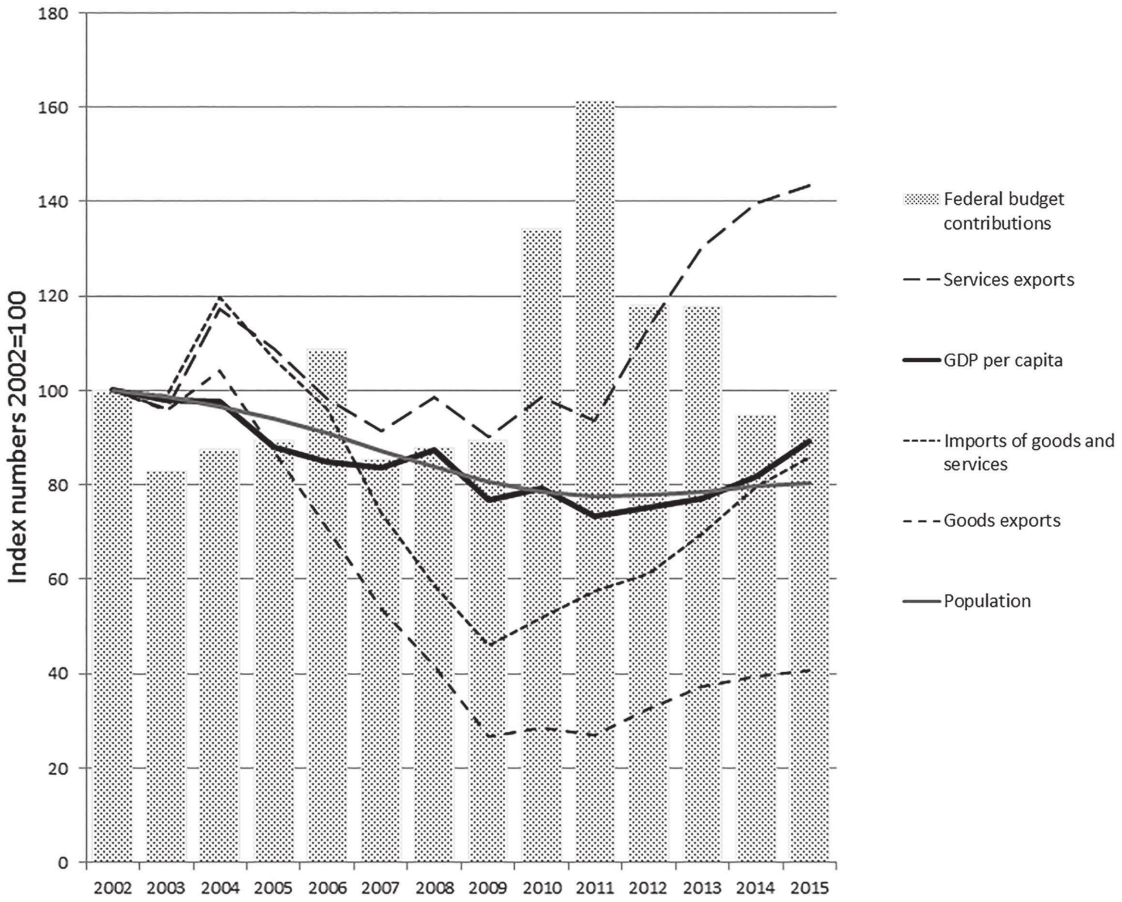

Figure 9.10 Northern Marianas adjustment to collapse of garment manufacturing.

Sources: Exports, imports and GDP from Furlong and Ludlow (2016) and from BEA annual national accounts at www.bea.gov/national/gdp_territory.htm. Population from World Development Indicators. Federal budget contributions from annual government financial statements at www.opacnmi.com/sec.asp?secID=4.

Division 2016, p. 58). The manufacturing sector dropped from 34 per cent of GDP in 2003 to 2 per cent by 2010 and 1 per cent by 2013 (Bureau of Economic Analysis 2012, Table 2.2) while the total manufacturing wage bill dropped from $74 million in 2007 to just $8 million by 2010 and $7 million in 2013 before stabilising (BEA 2016 p. 12 Table 2.6). Per capita GDP fell 20 per cent for a brief period, but then recovered fast from 2012 on, driven by three processes: outward migration of the now-redundant temporary manufacturing labour force, a new surge of tourism, and a four-year boost in federal transfers to support the government budget.

As many of the migrant labour force returned home, the population of the Northern Marianas dropped from 69,000 in 2001 to 53,000 in 2011. There was then a sharp upturn in tourism from Korea and China, making up for the earlier drop in tourists from Japan. The resulting surge of services exports meant that imports and per capita income quickly recovered from the collapse of manufactured exports, though as of 2016 they had not quite returned to 2002 levels.

Cook Islands

In the mid-1980s, the Cook Islands was one of the originally-identified MIRAB economies, with imports of US$19 million funded by remittances and aid of US$10 million p.a., commodity exports of US$3.6 million and philatelic and tourism earnings of US$6 million (Bertram 1986: 815 Table 9.4, converted at US$0.70=NZ$1). The Cook Islands diaspora in New Zealand had grown from under 1,000 in 1951 to 14,000 by 1981, approaching parity with the home-resident population. By 1996, there were 47,000 Cook Islanders resident in New Zealand, compared with about 20,000 home residents. Following a financial crisis in the mid-1990s, aid from New Zealand dropped by about half between 1995 and 2002 while, at the same time, tourism earnings roughly doubled. Meantime although around one-third of the resident population emigrated after the crisis, remittances stagnated, then fell away.

The long-run transitions of the Cook Islands from colonial export economy in 1892–1945, to MIRAB in the mid-1980s, then to massive borrowing and financial adventures in the early 1990s, and finally to complete domination by tourism by the 2010s, is traced in Figure 9.11. By 2014, tourism earnings had reached US$175 million compared with imports of goods and services of US$164 million, aid of US$22 million, and remittances of (probably) around US$1 million. The Cook Islands had made a full transition out of MIRAB and to SITE status.

Development of small-island taxonomy

MIRABs, SITEs and PROFITs

Over the past three decades, a widely-used taxonomy of small island economies has emerged, built around a three-way classification according to whether a particular island funds its import needs primarily by

(1) securing financial flows of primary and secondary income (aid, remittances, dividends and interest) which represent (implicitly at least) the return on external assets of some kind;
(2) becoming a tourist economy on the basis of its natural resource endowments of landscape, culture and climate;
(3) colonising niches of opportunity in the global economy in which it can exercise some absolute advantage over competitors, often on the basis of jurisdictional or institutional features.

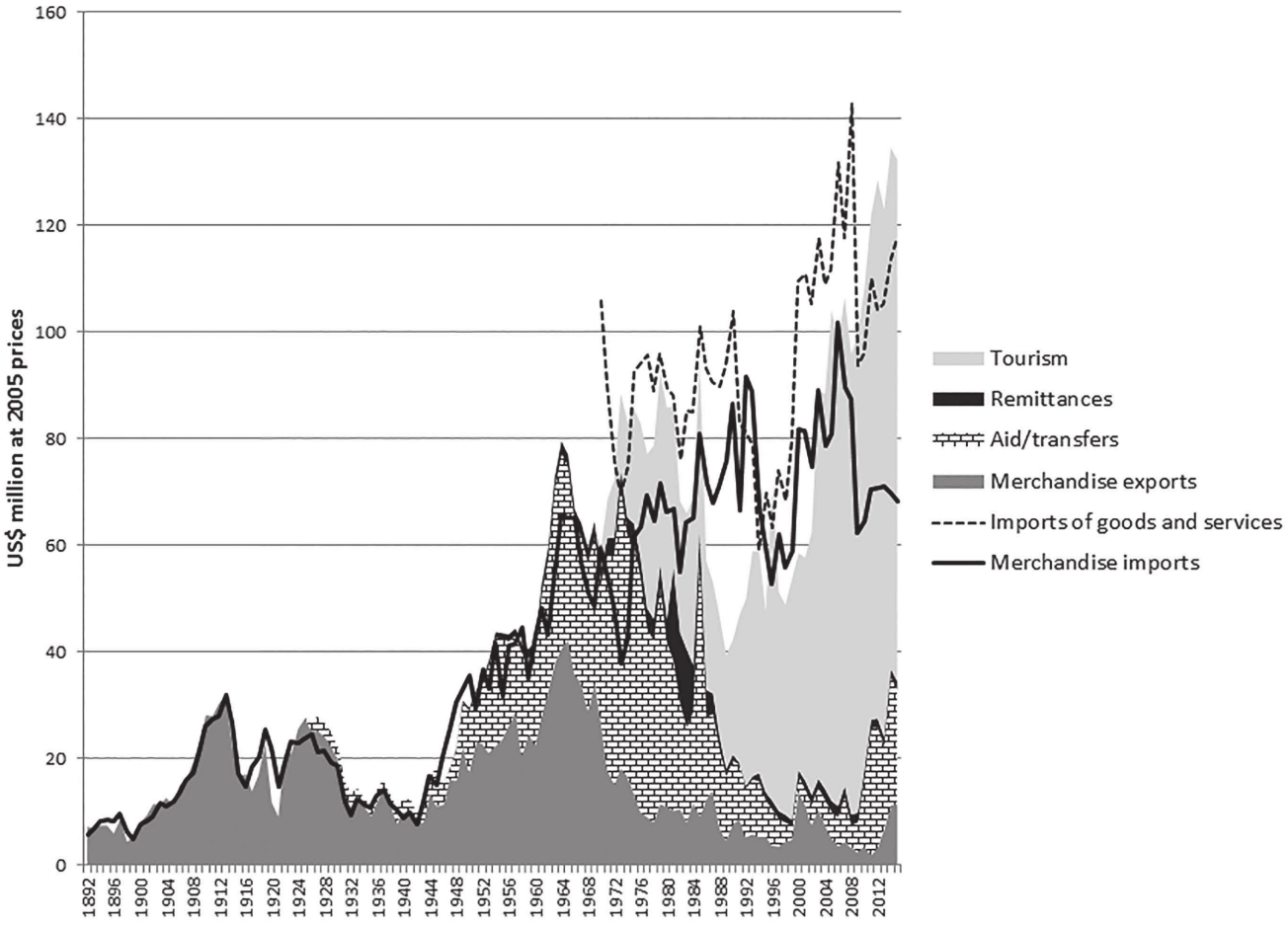

Figure 9.11 Cook Islands balance of payments, 1892–2015.

Sources: UN, WTO, New Zealand Government, OECD official sources, plus unofficial remittance estimates.

The first of these strategic options was described by the MIRAB model, developed in the mid-1980s (Bertram and Watters 1985, 1986) to describe economies funded by migrant remittances (MIR) or by aid which was used to fund local bureaucracies (AB). As pointed out by Poirine (1994) and Tisdell (2016), the MIRAB acronym conflated what were really two quite separate funding processes: the migration-remittance process driven by the decentralised behaviour of myriad individuals completely outside the ambit of government, and the aid-bureaucracy process which is predominantly a public-sector phenomenon. The developmental role of the state is quite different in the two cases: sidelined in a pure migration-remittance economy, but central in an aid-bureaucracy one – epitomised by the case of French Polynesia in the nuclear testing era which was described as 'ARAB' (atomic-rent-aid-bureaucracy) in Poirine (1994, p. 1998).

The second strategic option is encapsulated by the SITE (small island tourism economies) model of McElroy (2006, Oberst and McElroy 2007), and the third by the PROFIT model of Baldacchino (2006a). In Bertram (2006) and Baldacchino and Bertram (2009), a large number of small islands were classified under the MIRAB-SITE-PROFIT schema. The underlying purpose was to demonstrate how few were the cases of recent economic success based on traditional commodity exporting, while in the process categorising alternatives to the export-economy model.

A more complex and nuanced classification was used in Bertram and Poirine (2007 p. 363, Figure 9.11) to group 68 island economies into nine clusters in roughly increasing order of economic success: primary exporters with aid or remittance support, MIRABs, tourism plus exports, geostrategic aid (which can be viewed as a trade specialisation in export of geostrategic services – see Poirine 1999), moderate-impact tourism, geostrategic rent with exports, high-value exports, high-impact tourism, and offshore finance plus tourism. The next section updates that earlier work.

Classifying our 74 small island economies

To see how individual small island economies finance their import requirements, and hence to lay down a quantitative basis for classifying them into species, we use the concept of 'coverage ratios' already seen in Figure 9.5. The issue is how to cover the funding of an economy's total imports of goods and services – in other words, everything that has to be bought from external suppliers.

For the purposes of our analysis, we write the balance of payments identity in the following form:

$$M \equiv X + T + R + G + Z + F + B + O$$

Funding requirement | Current-account credit | Financial and capital accounts balance

where M is total imports of goods and services
X is merchandise exports valued FOB
T is total spending in the economy by overseas tourists
R is private remittances
G is government transfers, comprising both official aid and budgetary support grants

Z is a residual balancing item showing all other flows of funds within the current account, including any debt servicing and dividend flows
F is foreign direct investment net inflows
B is net offshore borrowing
O is other net funding on capital and financial account.

By using the import funding requirement as our basic unit of account ('numeraire'), we can express all the other elements in the balance of payments as percentages of the required import funding – that is, as 'coverage ratios' relative to the total funding need. The sum of the items *X*, *T*, *R*, *G* and *Z* minus total imports *M* will be equal to the current account balance (with *Z* calculated to produce this result). The sum of the items *F*, *B* and *O* is the negative of the current account balance (with *O* calculated to ensure this).

The aim of this exercise is to break down the external resources being accessed by each small island economy into a few key categories, in so far as it is possible to locate the necessary statistical information.

Appendix 9.1 shows, for the 53 of our 74 small islands with sufficient data, a statistical breakdown of the balance of payments in the period 2010–2015 (or for those years within this period for which data was available) into five sources of external funding to pay for imports of goods and services: merchandise exports, tourism, remittances, aid, and a residual (which is equal to *Z* in the equation above whenever a figure for the current account balance was available, or else (*Z*+*F*+*B*+*O*) where no overall current account balance was available).

Data on imports of goods and services, merchandise exports, current account. and some other balance of payments items, come primarily from the World Bank's *World Development Indicators*, the WTO database of merchandise trade statistics (WTO 2017), and the United Nations national accounts database (UN 2017), supplemented by balance of payments statistics produced by the Institut d'Emissions d'Outre-mer for New Caledonia and French Polynesia, the Centrale Bank van Curaçao en Sint Maarten for Curaçao, the East Caribbean Central Bank for Anguilla and Montserrat, the Cook Islands Statistics Office, the Faroes Statbank, and the Aland Statistical Yearbook. For economies that did not have full current account balances available, less complete data on current funding of imports was obtained, especially from the web publications of CEROM, IEDOM and FEDOM for Overseas France (FEDOM 2016), from US Bureau of Economic Analysis national accounts data on US territories, Eurostat NUTS2 and NUTS3 data on EU-linked island regions, the Statistical Yearbooks of American Samoa, Northern Marianas, and Guam, and the statistics offices of Azores and Madeira.

Figures for tourist expenditure and aid flows are not separately identified in the IMF's standard balance-of-payments statistics. For Appendix 9.1, tourist data come from the UN database and from a range of country-specific sources. Aid and government transfers data come mainly from the UN *Statistical Yearbook* (UN 2016), supplemented by the OECD DAC database, island-specific data from various sources, and the audited government accounts of the US territories. In the case of the French overseas departments and collectivities, the aid estimates are the sum of official transfers and net salaries paid from abroad, as recorded in the Institut d'Emission d'Outre-Mer balance-of-payments statistics for French Polynesia and New Caledonia (IEDOM 2016) and in Cour des Comptes (2013) and FEDOM (2016).

The first column of Appendix 9.1 shows per capita total imports of goods and services, and the subsequent six columns show the sources of the funding to sustain those imports. The final columns show population, income per head, life expectancy, and a crude welfare index to be discussed below. Numbers are annual averages for the period 2010–2015 wherever possible, or else the nearest available equivalent.

Appendix 9.1 also shows population counts taken mostly from the US Census Bureau (2016) and the World Bank (2016). Per capita income is drawn mostly from the *World Development Indicators* with income measured as gross national income where available, and from the UN national accounts database. Life expectancy data is drawn from the above sources, supplemented by data from IndexMundi. For island economies not covered by those sources, country-specific data has been used as available, including information from the *CIA World Factbook* and *Wikipedia*.

Figure 9.5 earlier in this chapter showed the results of this statistical exercise with regard to commodity exports. Figures 9.12 to 9.16 show the coverage ratios for: tourism (Figure 9.12), remittances (Figure 9.13), government transfers and aid (Figure 9.14), remittances and aid combined (Figure 9.15) and the residual (Figure 9.16): either the residual Z in the case of economies for which current account balances were available, or $(Z+F+B+O)$ for the rest. In each chart, a threshold is set at 40 per cent of imports of goods and services covered by the respective source of external funding, and economies that equal or exceed this threshold are identified.

Taking tourism first, Figure 9.12 identifies 15 small-island candidates for inclusion in the SITE category: eight of them sovereigns and seven non-sovereigns. Four of these economies – Cook Islands, Maldives, Northern Marianas and Turks and Caicos – have tourism coverage ratios of 80 per cent or more of their import-funding requirements. Another ten of the 50 small islands have tourism coverage ratios of over 20 per cent.

Comparing Figure 9.12 with the corresponding chart in Bertram (2006 p. 346, Figure 9.5), 11 of the 12 small islands identified as SITEs in that study reappear ten years on, with the addition of another four: Barbados, Dominica, Vanuatu and Aruba. Only the Cayman Islands has reduced its reliance on tourism below 40 per cent, apparently reflecting a stronger relative role for its financial services sector.

Turning to remittances, Figure 9.13 shows that there are only a limited number of purely remittance-led small island economies, if the World Bank's database for 2010–2015 is correct. Remittances are difficult to track accurately and are incompletely recorded in official statistics. In their detailed study of Tuvalu, Boland and Dollery (2005, pp. 32–33) estimated that counting remittances sent in the form of 'non-commercial imports' would add 5–10 per cent to recorded money transfers (probably more, given under-reporting of valuations), in addition to which substantial transfers in cash go unrecorded in official statistics. Consequently Figure 9.13 is almost certain to understate the true importance of remittances; but, even so, they now clearly dominate only a few small-island economies.

Among the non-sovereigns, the only one with remittances covering over 40 per cent of imports of goods and services is, strangely enough, Bermuda, where the so-called 'remittance' flow is associated with high-income employees rather than the more commonly noted blue-collar migrants who provide the large remittance flows seen in the Comoros, Tonga and Samoa. Apart from these four economies, remittances play only a minor role in import funding. Quite a number of small islands show negative remittances, due to repatriation of the earnings of migrant workers. (Mayotte, for example, is the source of around half of the remittances received by the Comoros.) Several other small island economies have unexplained (unclassifiable) outflows of funds (see Figure 9.16) which are probably outward remittances of surplus cash.

Matters are very different when we turn to the other component of the MIRAB model, official transfers of aid and budgetary support, shown in Figure 9.14. Eleven non-sovereign small islands and four sovereigns derive more than 40 per cent of their import funding from this source, and for seven of the 15 the ratio of transfers to imports is greater than 80 per cent. Overseas France accounts for seven of the 14: French Polynesia, Guadeloupe, Martinique,

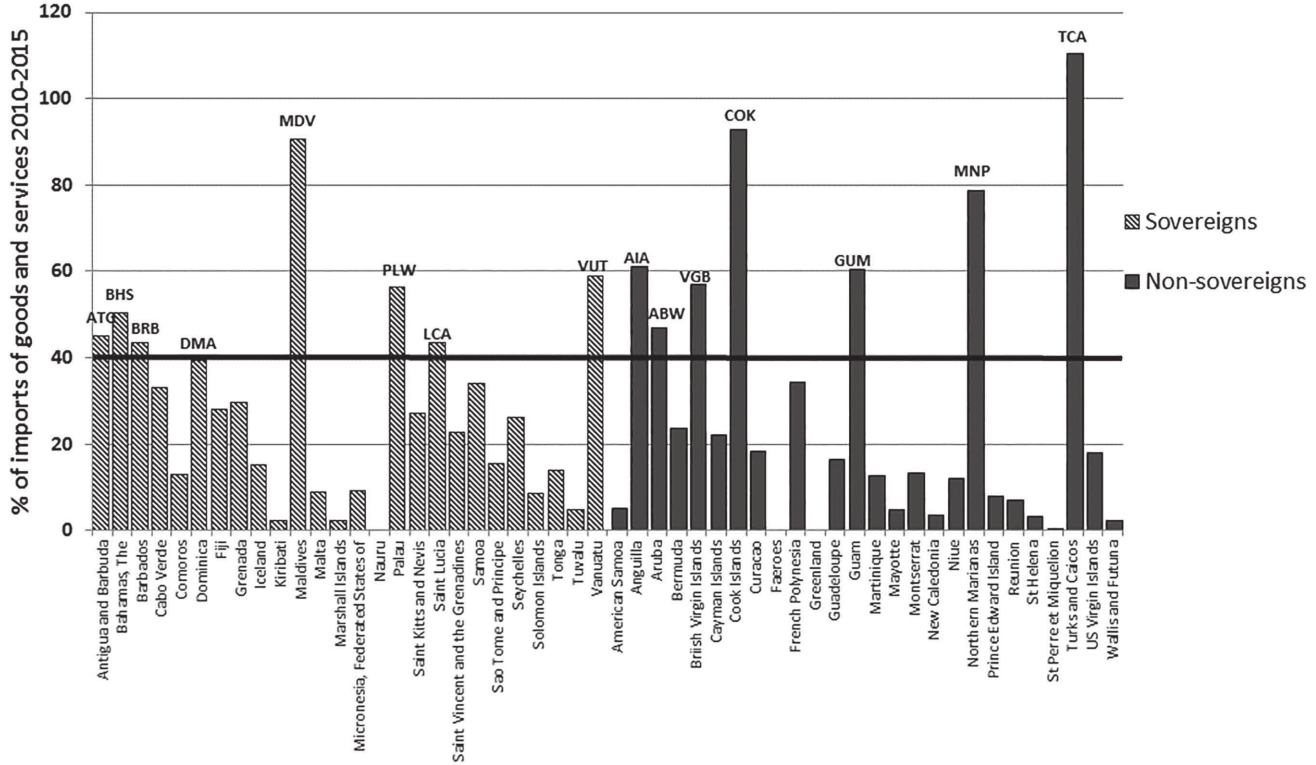

Figure 9.12 Tourism spending relative to imports of goods and services: identifying 'SITES'.

Source: Appendix 9.1.

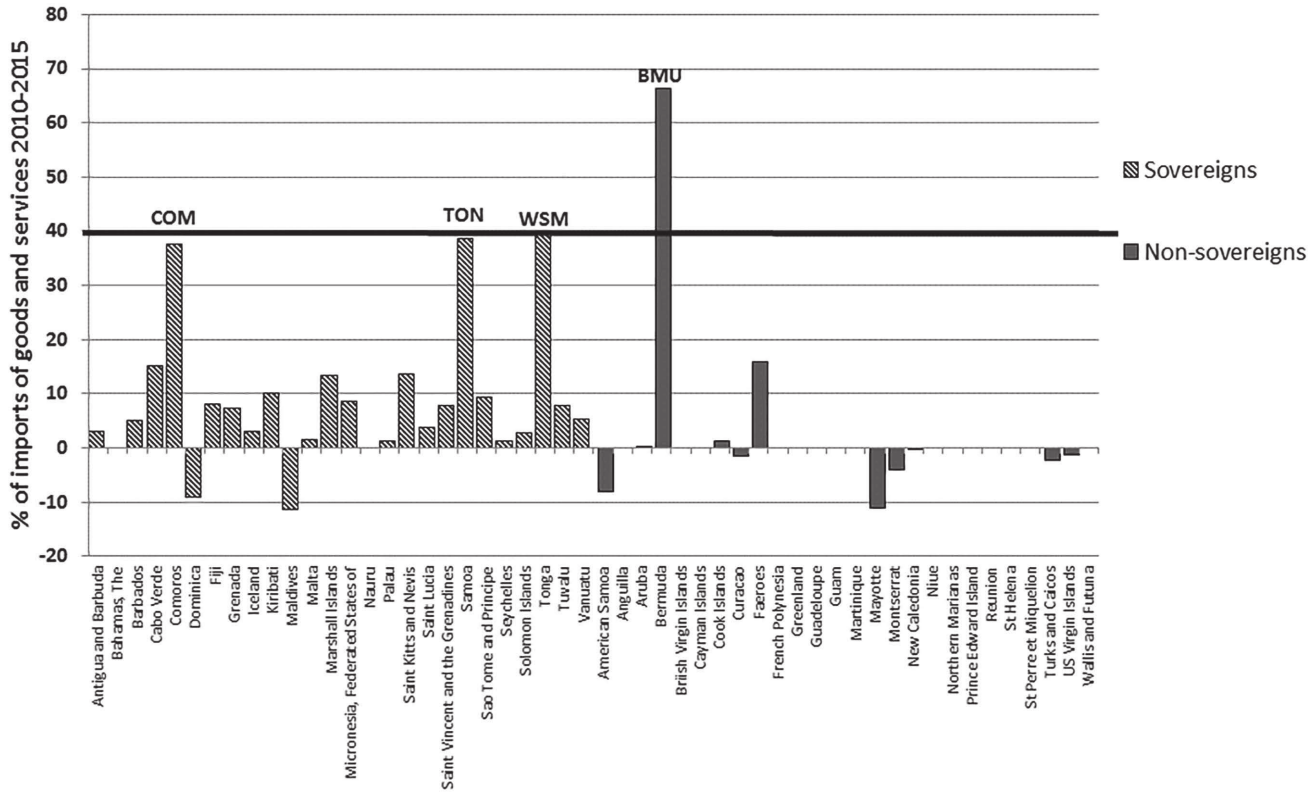

Figure 9.13 Remittances relative to imports of goods and services.

Source: Appendix 9.1.

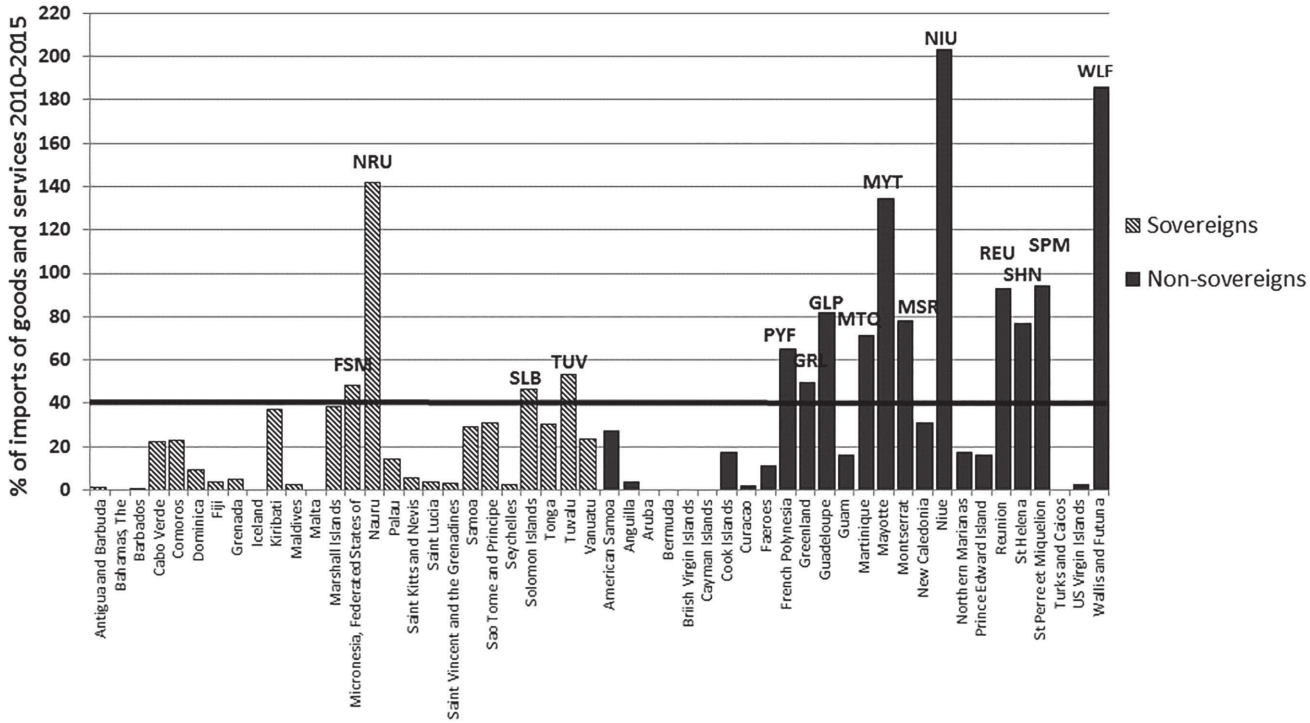

Figure 9.14 Government transfers/aid relative to imports of goods and services.

Source: Appendix 9.1.

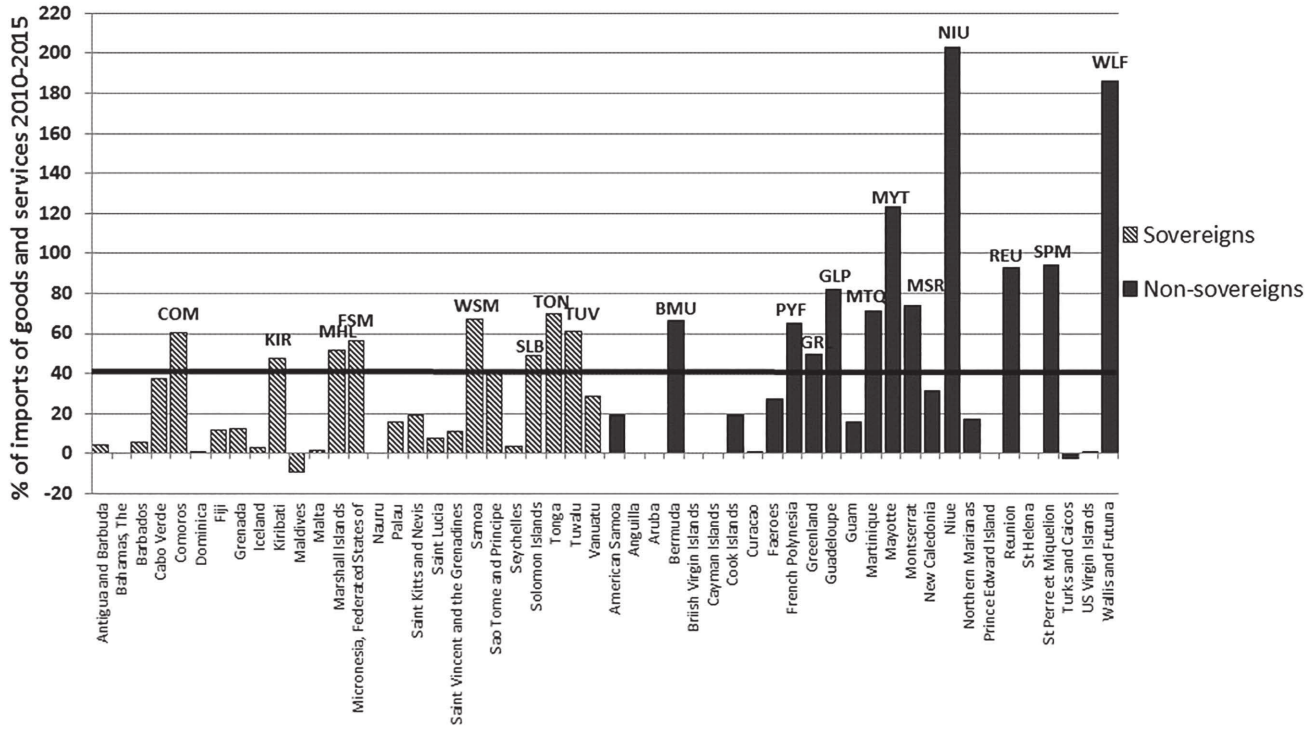

Figure 9.15 Remittances plus official transfers relative to imports of goods and services.

Source: Appendix 9.1.

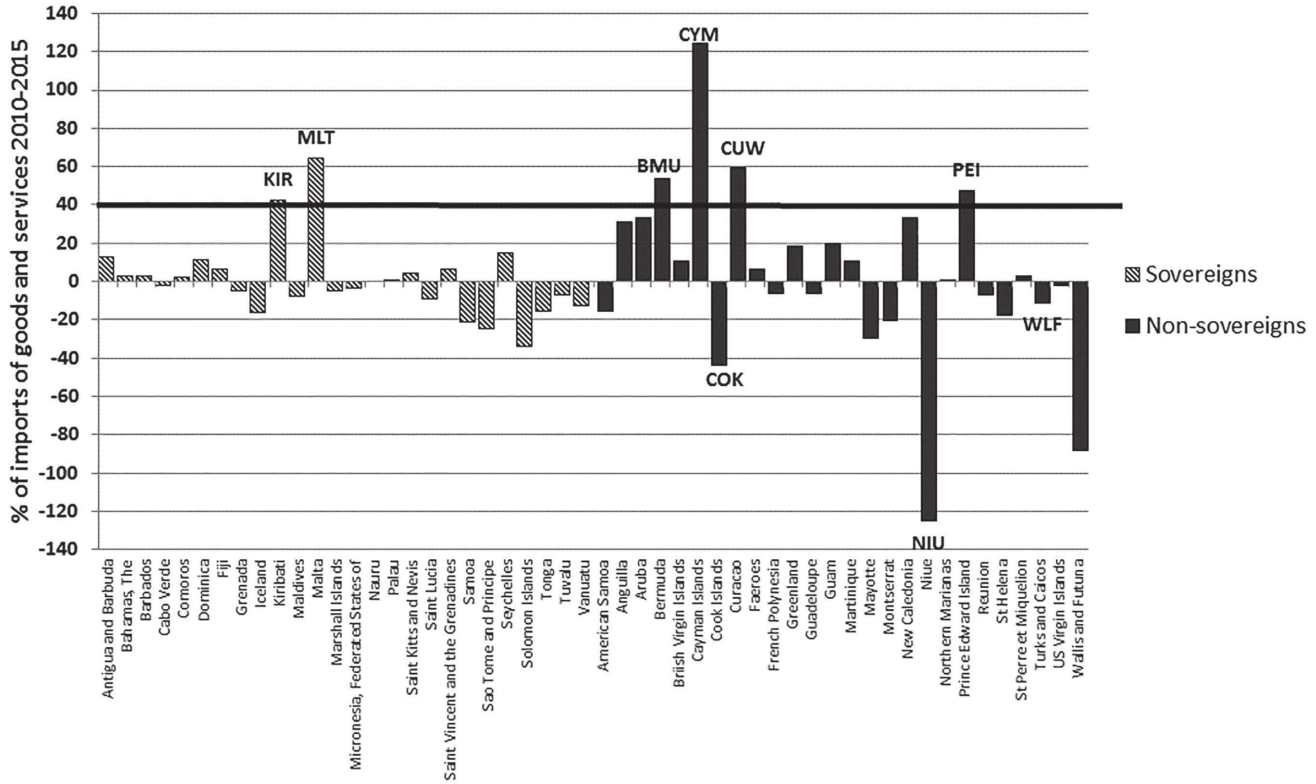

Figure 9.16 Residuals as % of imports of goods and services.

Source: Appendix 9.1.

Mayotte, Réunion, St Pierre et Miquelon, and Wallis et Futuna. Niue, associated with New Zealand under a constitutional guarantee of budgetary funding, heads the bunch with a ratio of around 200 per cent (more than half of which, as Figure 9.16 shows, flows back out again as unrecorded flows). Nauru has largely ceased to be a phosphate export economy – although the recovery of secondary reserves has temporarily revived Nauru's phosphate exports in recent few years, as reflected in Figure 9.5 – and now operates an offshore detention centre for asylum seekers and other migrants who have been refused entry by Australia, and is financially rewarded for doing so. Tuvalu, Micronesia, the Solomon Islands and Montserrat make up the rest of the transfer-dependent economies, with Marshall Islands and Kiribati very close to the 40 per cent threshold.

Combining remittances and official transfers produces the picture in Figure 9.15 where 19 of the 50 economies rely on these two rent categories for more than 40 per cent of their import funding; and, for 14 of these, the ratio is over 60 per cent.

Finally, in Figure 9.16, we turn to the residual balancing item, which has to be interpreted on a case-by-case basis. In the case of Kiribati, the residual corresponds to 'income from abroad' in the form of dividends on the country's sovereign wealth fund, the Revenue Equalisation Reserve Fund (established back when the economy was a phosphate exporter prior to 1979); this shows up in the column 'net income from abroad' in Appendix 9.1. For Malta and Prince Edward Island, the residual represents substantial exports of services. For Bermuda, the Caymans and Curaçao, their large positive residuals represent the returns on their offshore finance operations. For Aland, returns from international shipping are the dominant component of the residual. In Niue and Wallis et Futuna, as already noted, the large negative residuals are the overflow from excess coverage by official transfers.

Obviously, the scope of the statistical analysis has been limited by data constraints, with the result that for 21 of our 74 small islands, we have only qualitative descriptive information about their leading sectors. Figure 9.17 classifies the full set of economies, updating and expanding the similar chart in Bertram (2006 p. 363 Figure 9.12). Ten generalised economic strategies are ranked in roughly ascending order in terms of the level of material welfare they support, as measured by an index of income and life expectancy using the old Human Development Index methodology for those two components. (The third component of the HDI, education, could not be included due to data limitations.)

The strategies are mix-and-match assemblages of six key sectoral foci: simple subsistence, exports, tourism, remittances, aid-official transfers, and financial services. As would be expected, financial services and associated tourism show a clear lead, but high-value exports perform well in small-island appendages of core metropolitan economies or of the EU. MIRAB and subsistence economies are at the lower end of the welfare spectrum.

Conclusion

This chapter has shown that, when they are both small and isolated, islands face a dilemma when choosing a development strategy: with their small domestic market, import substitution is not an option, and competitiveness can be gained only by opening up to trade, that is, by exporting goods or services to the global market in order to gain economies of scale. However, because they are small and isolated, the gains from trade are eaten up by transport costs and the lack of agglomeration economies – which are benefits that accrue when firms and people bunch together, as in cities and industrial clusters – reducing value added per worker compared to less remote countries.

Therefore, development strategies have to cope with what we call the *small island paradox*: islands have to open up (if they are not to stay very poor in autarky), but the gains from trade are harder to come by as the distance from the rest of the world increases. Strategies to get around this dilemma include the search for rents (geostrategic or geopolitical rents generating public transfers, private remittances from the diaspora, fishing rights, and/or very high end tourism) or the export of goods of very high value per unit weight, such as pearls or stamps, or the export of intangible services, such as financial services (and concomitant risks).

Flexible specialisation is the key attribute of island economies, and is more easily achieved the smaller the population involved and the greater the degree of cultural and social cohesion within that population. The actors in and of small island economies are best thought of as entrepreneurs, actively engaged in seeking out external opportunity and deploying their scarce resources to maximise rents and quasi-rents from the exploitation of any market niches they can find and develop (Baldacchino 2015, Connell 2013). The common tendency of observers to treat small island economies as though they are marginal dependents in the world economy is not only demeaning to islanders but profoundly misleading as the basis for economic theorising about their development potential.

A strategic, game-theoretic conceptualisation brings into focus the active role played by island actors in securing their economic place in the world. The statistical record shows a low incidence of poverty; genuinely destitute small-island economies are few, and those which do exist are mostly searching out dynamic escape paths. Fiscal management is generally solid, and democratic institutions are more secure and widely encountered than in continental comparators. Health status and literacy – two indicators of human welfare not analysed in this chapter but implicit in Figure 9.17 – are generally good, endowing islander migrants with a well-grounded start towards employment and success in large host economies.

Resilience and adaptability are long-established traits nurtured by the conditions of island life. Applying these to the economic problem of securing material and non-material welfare in the 21st-century global economy will require new challenges to be overcome – challenges that are likely to prove tougher than those of the 20th century. Global markets for financial services no longer offer the easy pickings that boosted Bermuda and the Cayman Islands to prosperity. Migration and remittance flows face increasing political resistance as the number of migrants and refugees has swelled. Keeping abreast of rapidly-evolving digital technologies in order to hold their own as exporters of services requires small islands to undertake costly investments in physical infrastructure to improve their connectivity and data speeds. Mass tourism has placed new stresses on fragile small-island ecosystems. And for many low-lying small islands, the threat of climate change and rising sea levels overshadows their economic futures.

Not all the emerging trends of the 21st century are negative, however. Global tourism demand continues to grow, especially from the middle classes of newly-prosperous economies such as China and India, bringing with it increased incentives for aid and capital flows to improve infrastructure in small-island destinations. Geopolitical tensions and rivalries are again on the rise, in a multipolar world in which small-island members of the UN General Assembly wield voting power out of all proportion to their population size, and in which the politics and economics of climate change must eventually move to the top of the policy agenda. After all, the smallest 11 Pacific island nations have one UN General Assembly seat (and vote) per 210,000 people. The USA has one vote for 320 million people. India has one vote for 1.1 billion. China has one vote for 1.3 billion.

Baldacchino's "resourcefulness of jurisdiction" still has plenty of life in it.

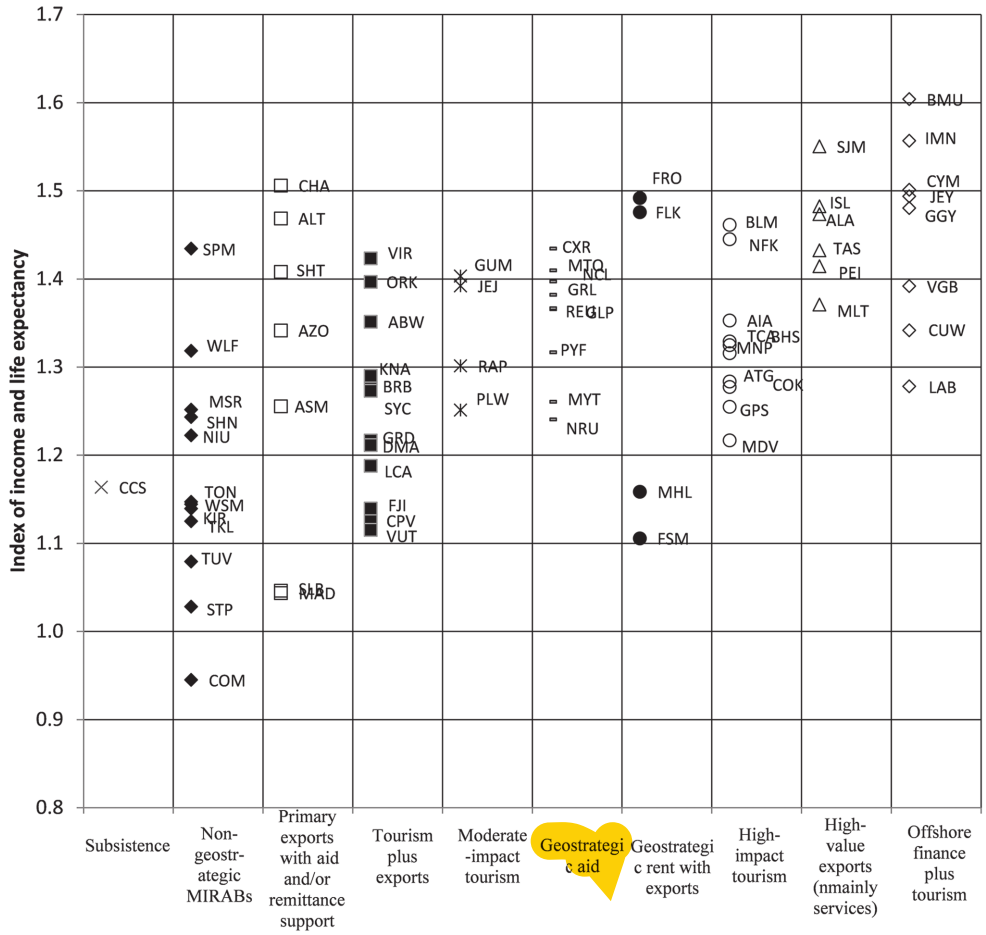

Figure 9.17 Welfare levels and economic strategies for 74 small island economies.

Source: Appendix 9.1.

Appendix 9.1
BASIC DATA FOR 74 SMALL ISLAND ECONOMIES

				% of imports of goods and services (2010–2015)													
Island	*Abbreviation*	*Political status*	*Imports of goods and services per capita 2010–2015 US$*	*Merchandise exports*	*Tourism spending*	*Remittances*	*Aid/ government transfers*	*Remittances + aid*	*Residual*	*Net income from abroad*	*Current account balance*	*Net FDI inflow*	*Other funding of current account*	*2015 population*	*2015 per capita income US$*	*Life expectancy*	*Index of income and life expectancy*	*Strategic classification*
Åland	ALA	SNJ												28,916	46,549	82.50	1.473	High-value exports (shipping services) plus some tourism
Aleutians	ALT	SNJ												9,043	51,476	78.70	1.468	Primary exports with federal financial support
American Samoa	ASM	SNJ	11,176	62.8	5.2	−8.0	27.2	19.1	11.0	0.0	−1.8	0.0	0.0	55,538	11,809	74.40	1.255	Primary exports with federal financial support
Anguilla	AIA	SNJ	11,480	4.0	60.9	0.0	3.6	3.6	3.2	0.0	−28.3	13.5	14.8	16,752	19,474	81.40	1.353	High impact tourism with capital inflow
Antigua and Barbuda	ATG	SOV	7,679	8.3	45.1	3.0	1.2	4.2	12.6	−5.6	−29.8	17.2	12.6	91,818	13,270	75.94	1.277	High impact tourism with capital inflow
Aruba	ABW	SNJ	29,868	42.0	46.8	−2.0	0.0	−2.0	12.9	0.0	−0.3	4.3	−3.9	103,889	25,354	75.45	1.351	Tourism plus exports
Azores*	AZO	SNJ	786	70.1			105.3							246,746	21,030	77.8	1.341	Primary exports with large EU regional development funding
Bahamas, The	BHS	SOV	12,003	17.9	50.8	−3.0	0.0	−3.0	5.6	−7.0	−28.8	4.2	24.6	388,019	20,740	75.23	1.325	High impact tourism with capital inflow
Barbados	BRB	SOV	8,083	34.9	46.1	3.3	0.7	4.0	1.9	−8.7	−13.1	11.7	1.4	284,215	14,510	75.50	1.285	Tourism with exports
Bermuda	BMU	SNJ	29,204	0.7	23.8	66.4	0.0	66.4	54.0	75.4	44.9	−1.0	−43.9	65,235	106,140	80.80	1.604	Offshore finance plus tourism
British Virgin Islands	VGB	SNJ	23,218	3.5	59.8	0.0	0.0	0.0	59.0		22.3	−22.3	0.0	30,117	30,144	78.60	1.392	Offshore finance plus tourism

(*Continued*)

Appendix 9.1 (Continued)

				% of imports of goods and services (2010–2015)													
Island	*Abbreviation*	*Political status*	*Imports of goods and services per capita 2010–2015 US$*	*Merchandise exports*	*Tourism spending*	*Remittances*	*Aid/ government transfers*	*Remittances + aid*	*Residual*	*Net income from abroad*	*Current account balance*	*Net FDI inflow*	*Other funding of current account*	*2015 population*	*2015 per capita income US$*	*Life expectancy*	*Index of income and life expectancy*	*Strategic classification*
Cabo Verde	CPV	SOV	2,250	15.4	37.2	15.1	22.2	37.3	−5.8	−6.2	−16.1	8.7	7.4	520,502	3,280	73.15	1.126	Tourism with exports, remittances and aid
Cayman Islands	CYM	SNJ	37,637	1.0	22.1	0.0	0.0	0.0	45.7		−31.2			57,268	56,282	82.30	1.501	Offshore finance plus tourism
Chatham Islands	CHA	SNJ												600	63,264	79.60	1.506	Primary exports with aid and/or remittance support
Christmas Island	CXR	SNJ												2,072	34,964	82.80	1.434	Geostrategic aid
Cocos (Keeling) Islands	CCR	SNJ												596	5,125	69.00	1.164	Subsistence
Comoros	COM	SOV	394	3.4	12.5	36.0	21.9	58.0	11.0	0.1	−15.1	3.1	12.0	788,474	798	63.26	0.945	Non-geostrategic MIRAB
Cook Islands	COK	SNJ	15,520	5.9	94.1	17.5	17.5	35.0	18.1	4.5	53.1	0.0	0.0	9,838	14,119	75.80	1.283	High impact tourism
Curaçao	CUW	SNJ	18,711	26.4	23.3	0.7	−0.9	−0.1	23.8	0.0	−25.7	1.9	23.8	155,909	20,547	78.30	1.341	Offshore finance plus tourism and exports
Dominica	DMA	SOV	3,631	13.3	36.3	8.7	9.1	17.8	41.3	−5.6	8.7	−29.9	21.2	72,680	6,800	77.05	1.217	Tourism plus exports with capital inflow
Easter Island (Rapanui)	RAP	SNJ												6,600	14,100	78.80	1.301	Moderate impact tourism
Falkland Islands (Islas Malvinas)	FLK	SNJ												2,918	55,400	77.90	1.476	Primary exports with aid
Faroe Islands	FRO	SNJ	18,820	70.2		15.8	11.4	27.2	8.5	8.1	5.8	−31.5	25.6	48,199	54,118	81.69	1.492	Primary exports with aid and remittances
Fiji Islands	FJI	SOV	2,858	42.1	37.3	7.6	3.6	11.2	−2.3	−5.3	−11.7	13.5	−1.9	892,145	4,830	70.09	1.139	Tourism plus exports
French Polynesia	PYF	SNJ	8,088	6.8	34.2		55.0	55.0	3.9	0.0	5.4	3.6	−9.0	282,764	18,161	76.54	1.317	Geostrategic aid
Galapagos	GPS	SNJ												25,124	10,200	76.80	1.255	High impact tourism
Greenland	GRL	SNJ	29,489	27.4			46.1	46.1	26.5					57,728	36,111	72.40	1.382	Geostrategic rent with exports
Grenada	GRD	SOV	3,244	8.2	29.5	7.1	5.2	12.3	−1.1	−8.3	−51.1	12.5	38.7	106,825	8,650	73.37	1.217	Tourism plus exports
Guadeloupe	GLP	SNJ	8,791	7.9	16.9		83.1	83.1	−7.9					400,132	23,416	79.75	1.366	Geostrategic aid
Guam	GUM	SNJ	18,695	3.7	56.9		14.1	14.1	25.3					169,885	32,122	79.13	1.403	Moderate impact tourism plus aid
Guernsey	GGY	SNJ												66,297	52,300	80.44	1.480	Offshore finance plus tourism
Iceland	ISL	SOV	18,647	76.3	15.3	1.7	0.0	1.7	8.5	−3.8	1.8	7.1	−8.8	330,823	50,140	82.06	1.482	High-value exports
Isle of Man	IMN	SNJ												88,195	83,100	80.44	1.557	Offshore finance plus tourism
Jeju	JEJ	SNJ												604,771	28,722	79.80	1.392	Moderate impact tourism

Jersey	JEY	SNJ												98,069	57,000	80.44	1.493	Offshore finance plus tourism
Kiribati	KIR	SOV	1,466	4.1	3.1	9.6	37.4	47.0	48.9	69.3	3.1	0.2	−3.3	112,423	3,390	65.95	1.079	Non-geostrategic MIRAB
Labuan	LAB	SNJ												96,800	13,932	75.10	1.278	Offshore finance plus tourism
Madeira	MAD	SNJ	608	70.3	1.4									270,000	17,842	74.90	1.044	Primary exports with aid
Maldives	MDV	SOV	5,986	12.3	90.7	−11.4	2.3	−9.1	−3.2	−14.2	−9.3	13.5	−4.1	409,163	6,950	76.77	1.217	High impact tourism
Malta	MLT	SOV	34,263	25.0	9.0	−6.4	0.0	−6.4	72.3	−2.9	1.2	26.7	−27.9	431,333	22,248	81.75	1.371	High-value exports especially services (in residual)
Marshall Islands	MHL	SOV	3,463	43.5	2.4	13.3	38.2	51.5	−3.9	22.9	−6.5	−0.4	6.9	52,993	4,770	73.10	1.158	Geostrategic rent with exports
Martinique	MTQ	SNJ	10,150	13.9	12.3	0.0	72.5	72.5	1.3					378,243	31,058	82.70	1.410	Geostrategic rent (French budget support)
Mayotte	MYT	SNJ	3,356	1.2	3.7	−11.0	134.5	123.6	−28.5					226,900	10,754	76.83	1.260	Geostrategic rent (French budget support)
Micronesia, Federated States of	FSM	SOV	2,390	30.5	9.3	1.5	48.4	49.8	4.6	9.7	−5.8	1.8	4.0	104,460	3,560	69.10	1.106	Geostrategic rent with exports
Montserrat	MSR	SNJ	9,982	5.7	13.4	−4.1	77.8	73.7	−20.4	−4.5	−27.6	7.4	20.3	5,267	11,363	74.40	1.251	Non-geostrategic MIRAB
Nauru*	NRU	SOV	7,264	54.3			41.3	41.3						10,222	15,420	67.10	1.241	Geostrategic aid
New Caledonia	NCL	SNJ	16,860	32.5	0.0	−0.1	31.1	31.1	2.9	13.3	−33.5	43.4	−9.9	273,000	32,736	77.57	1.397	Geostrategic rent with exports
Niue	NIU	SNJ	11,476	9.1	22.1		180.0	180.0	−111.2					1,612	11,539	69.45	1.222	Non-geostrategic MIRAB
Norfolk Island	NFK	SNJ												2,210	37,828	82.80	1.445	High impact tourism
Northern Mariana Islands	MNP	SNJ	9,072	3.4	78.8	0.0	17.4	17.4	0.4					55,070	16,742	78.00	1.316	High impact tourism
Orkney Islands	ORK	SNJ												21,667	28,550	80.80	1.397	Tourism plus exports
Palau	PLW	SOV	8,704	8.1	58.2	1.2	14.5	15.7	18.0	−5.4	−17.2	11.5	5.7	21,291	12,180	73.10	1.251	Moderate impact tourism
Prince Edward Island	PEI	SNJ	25,947	36.8	7.5		16.3	16.3	39.4					148,649	32,986	80.50	1.414	High-value exports especially services (in residual)
Réunion*	REU	SNJ	7,198	6.3	6.9		94.7	94.7	−7.9					843,529	23,837	79.54	1.367	Geostrategic aid
Saint Helena, Ascension and Tristan da Cunha	SHN	SNJ	4,177	7.0	3.1	0.0	76.8	76.8	−13.5	3.5	−40.5			7,776	7,800	79.21	1.243	Non-geostrategic MIRAB
Saint Kitts and Nevis	KNA	SOV	7,486	10.1	24.2	10.7	4.9	15.5	17.8	−6.7	−32.3	28.2	4.1	55,572	15,060	75.70	1.290	Tourism plus exports

(*Continued*)

Appendix 9.1 (Continued)

				% of imports of goods and services (2010–2015)													
Island	*Abbreviation*	*Political status*	*Imports of goods and services per capita 2010–2015 US$*	*Merchandise exports*	*Tourism spending*	*Remittances*	*Aid/ government transfers*	*Remittances + aid*	*Residual*	*Net income from abroad*	*Current account balance*	*Net FDI inflow*	*Other funding of current account*	*2015 population*	*2015 per capita income US$*	*Life expectancy*	*Index of income and life expectancy*	*Strategic classification*
Saint Lucia	LCA	SOV	4,158	23.9	43.8	3.7	3.9	7.5	−5.5	−3.5	−30.3	11.6	18.7	184,999	7,350	75.05	1.211	Tourism plus exports
Saint Vincent and the Grenadines	VCT	SOV	3,632	11.1	22.9	6.2	3.0	9.2	5.7	−1.5	−51.0	27.5	23.5	109,462	6,630	72.94	1.188	Tourism plus exports
Saint Pierre and Miquelon*	SPM	SNJ	17,977	2.8	18.1	0.0	93.6	93.6	−14.5					5,595	38,204	80.50	1.434	Non-geostrategic MIRAB
Samoa	WSM	SOV	2,057	16.1	35.3	37.2	29.8	67.0	−29.4	−6.9	−10.9	3.5	7.4	193,228	3,930	73.51	1.144	Non-geostrategic MIRAB: remiitances and aid plus substantial tourism
Saõ Tomé and Príncipe	STP	SOV	922	7.8	15.4	8.7	31.2	39.9	−17.6	0.9	−54.4	17.3	37.1	190,344	1,760	66.38	1.028	Non-geostrategic MIRAB
Seychelles	SYC	SOV	15,172	37.3	31.1	−2.9	2.2	−0.7	15.2	−5.1	−17.1	14.5	2.6	92,900	14,760	73.23	1.273	Tourism plus exports
Shetland Islands	SHT	SNJ												23,210	33,516	79.00	1.408	Primary exports with financial support
Solomon Islands	SLB	SOV	1,144	64.7	10.0	−5.6	46.3	40.7	−26.7	−30.6	−11.3	10.5	0.8	583,591	1,920	67.93	1.046	Primary exports with aid support
St Barthélemy	BLM	SNJ												9,279	47,388	79.75	1.461	High impact tourism
Svalbard	SJM	SNJ												1,872	77,080	81.80	1.550	High-value service exports
Tasmania	TAS	SNJ												519,128	37,426	80.65	1.432	High-value exports
Tokelau	TKL	SNJ												1,337	4,461	69.00	1.125	Non-geostrategic MIRAB
Tonga	TON	SOV	2,458	5.8	14.9	38.5	31.3	69.7	−13.3	3.6	−22.9	5.8	17.1	106,170	4,280	72.79	1.147	Non-geostrategic MIRAB
Turks and Caicos Islands	TCA	SNJ	8,887	2.6	104.0	−2.3	0.0	−2.3	−4.3					51,430	17,157	79.80	1.329	High impact tourism
Tuvalu	TUV	SOV	4,394	1.4	5.4	7.9	60.2	68.1	25.2	32.9	−8.6	1.2	7.4	9,916	6,230	66.50	1.139	Non-geostrategic MIRAB
US Virgin Islands	VIR	SNJ	58,514	83.0	18.7	−1.3	2.3	1.0	−2.8	0.0	0.0	0.0	0.0	103,574	36,351	79.77	1.423	Tourism plus exports (commodity exports have fallen away sine 2012)
Vanuatu	VUT	SOV	1,655	12.5	65.4	4.5	23.6	28.1	−8.0	−4.9	−2.0	11.6	−9.6	264,652	3,170	71.92	1.115	Tourism plus aid and some exports
Wallis and Futuna*	WLF	SNJ	4,315	0.2	2.2	0.0	186.0	186.0	−88.4					15,664	15,682	79.70	1.318	Non-geostrategic MIRAB

Note: * For these economies, the data show imports of goods only; this is used as the denominator for the coverage ratios.

References

Aldrich, R., and Connell, J. (1998) *The last colonies*. Cambridge, Cambridge University Press.

Armstrong, H.W., De Kervenoael, R.J., Li, X., and Read, R. (1998) A comparison of the economic performance of different micro-states and between micro-states and larger countries. *World Development*, 26(4), 639–656.

Armstrong, H.W., and Read, R. (2000) Comparing the economic performance of dependent territories and sovereign micro-states. *Economic Development and Cultural Change*, 48(2), 285–306.

Armstrong, H.W., and Read, R. (2002a) The phantom of liberty? Economic growth and the vulnerability of small states. *Journal of International Development*, 14(4), 435–458.

Armstrong, H.W., and Read, R. (2002b) Small states, islands and small states that are also islands. *Studies in Regional Science*, 33(1), 1–24.

Baldacchino, G. (1993) Bursting the bubble: the pseudo-development strategies of microstates. *Development & Change*, 24(1), 29–51.

Baldacchino, G. (1998) The other way round: manufacturing as an extension of services in small states. *Asia Pacific Viewpoint*, 39(3), 267–279.

Baldacchino, G. (2005) The contribution of 'social capital' to economic growth: lessons from island jurisdictions. *The Round Table: Commonwealth Journal of International Affairs*, 94(378), 31–46.

Baldacchino, G. (2006a) Managing the hinterland beyond: Two, ideal-type strategies of economic development for small island territories. *Asia-Pacific Viewpoint*, 47(1), 45–60.

Baldacchino, G. (2006b) Innovative development strategies from non-sovereign island jurisdictions: A global review of economic policy and governance practices. *World Development*, 34(5), 852–867.

Baldacchino, G. (2010) *Island enclaves: offshoring strategies, creative governance and subnational island jurisdictions*. Montreal and Kingston, QC, McGill-Queen's University Press.

Baldacchino, G. (2011) Surfers of the ocean waves: change management, intersectoral migration and the economic development of small island states. *Asia Pacific Viewpoint*, 52(3), 236–246.

Baldacchino, G. (2015) *Entrepreneurship in small island states and territories*. London, Routledge.

Baldacchino, G., and Bertram, G. (2009) The beak of the finch: insights into the economic development of small economies. *The Round Table: Commonwealth Journal of International Affairs*, 98(401), 141–160.

Baldacchino, G., and Hepburn, E. (eds.) (2012) Independence, nationalism and subnational island jurisdictions. *Commonwealth and Comparative Politics*, 50(4), 395–568.

Baldacchino, G. and Milne, D. (2000), *Lessons from the political economy of small islands: the resourcefulness of jurisdiction*, New York, St. Martin's Press, in association with Institute of Island Studies, University of Prince Edward Island, Canada

Baldacchino, G., and Milne, D. (eds.) (2009) *The case for non-sovereignty: lessons from sub-national island jurisdictions*. London, Routledge.

Banque de France and Institut d'Emission d'Outre-Mer (2004–2015) *Polynesie Française: Rapport annuel: La balance des paiements*. Available from: www.ieom.fr/polynesie-francaise/publications-71/balance-des-paiements-75/.

Bennell, P., and Oxenham, J. (1983) Skills and qualifications for small island states. *Labour and Society*, 8(1), 3–38.

Bertram, G. (1986) 'Sustainable development' in Pacific micro-economies. *World Development*, 14(7), 809–822.

Bertram, G. (1998) The MIRAB model twelve years on. *The Contemporary Pacific*, 11(1), 105–138.

Bertram, G. (1999) Economy. In M. Rapaport, M. (ed.), *The Pacific islands: environment and society*, Honolulu, HI, Bess Press, pp. 337–352.

Bertram, G. (2004) On the convergence of small island economies with their metropolitan patrons. *World Development*, 32(2), 343–364.

Bertram, G. (2006) Introduction: the MIRAB model in the twenty-first century. In G. Bertram (ed.), *Beyond MIRAB: The political economy of small islands in the 21st century*. Edited special issue of *Asia Pacific Viewpoint*, 47(1), 1–21.

Bertram, G. (2012) Trade and exchange: economic links between the Pacific and New Zealand in the twentieth century. In S. Mallon, K. Māhina-Tuai and D. Salesa (eds.), *Tangata o le Moana: New Zealand and the people of the Pacific*, Wellington, New Zealand, Te Papa Press, pp. 201–219.

Bertram, G. (2015) Is independence good or bad for small island economies? A long-run analysis. *Région et Développement*, 42(1), 31–54.

Bertram, G. (2016) Sovereignty and material welfare. In A. Holtz, M. Kowasch and O. Hasenkamp (eds.), *A region in transition: politics and power in the Pacific island countries*, Saarbrücken, Germany, Saarland University Press, pp. 385–430.

Bertram, G., and Karagedikli, O. (2004) Core-periphery linkages and income in small Pacific island economies. In J. Poot (ed.), *On the edge of the global economy*, Cheltenham, Edward Elgar, pp. 106–122.

Bertram, G., and Poirine, B. (2007) Island political economy. In G. Baldacchino (ed.), *A world of islands: an island studies reader*, Charlottetown, Canada and Luqa, Malta, Institute of Island Studies, University of Prince Edward Island and Agenda Academic, pp. 325–377.

Bertram, G., and Watters, R.F. (1985) The MIRAB economy in South Pacific microstates. *Pacific Viewpoint*, 26(3), 497–519.

Bertram, G., and Watters, R.F. (1986) The MIRAB process: earlier analysis in context, Pacific Viewpoint, 27(1), 47–59.

Boland, S., and Dollery, B. (2005) *The economic significance of migration and remittances in Tuvalu*. Working Paper 2005–10, University of New England School of Economics.

Borovnik, M. (2006) Working overseas: seafarers' remittances and their distribution in Kiribati. *Asia-Pacific Viewpoint*, 47(1), 151–161.

Briguglio, L. (1995) Small island developing states and their economic vulnerabilities. *World Development*, 23(9), 1615–1632.

Briguglio, L., and Cordina, G. (eds.) (2004) *Competitiveness strategies for small states*, Msida, Malta and London, Islands and Small States Institute and Commonwealth Secretariat.

Briguglio, L., Cordina, G., Farrugia, N., and Vella, S. (2005) Conceptualising and measuring economic resilience. In S. Chand (ed.), *Pacific islands regional integration and governance*, Canberra, ANU Press, pp. 26–49.

Brittain-Catlin, W. (2005) *Offshore: the dark side of the global economy*. New York, Farrar, Strauss and Giroux.

Bureau of Economic Analysis, US Department of Commerce (2012) *Estimates of gross domestic product, gross domestic product by industry, compensation by industry, and detailed consumer spending for the Commonwealth of the Northern Mariana* Islands. BEA 12–39. Available from: /www.bea.gov/newsreleases/general/terr/2012/CNMIGDP_091312.pdf.

Bureau of Economic Analysis, US Department of Commerce (2016) *Gross domestic product for the Commonwealth of the Northern Mariana Islands increases for the fourth year in a row*. BEA 12–39. Available from: www.bea.gov/newsreleases/general/terr/2016/CNMIGDP_112916.pdf.

Cayman Islands Government (2016) *About Cayman*. Available from: www.gov.ky/portal/page/portal/cighome/cayman.

Central Intelligence Agency (2017) *CIA world factbook*, Washington, DC, Central Intelligence Agency. Available from: www.cia.gov/library/publications/the-world-factbook/.

Central Statistics Division, Government of the Northern Marianas Islands (2016) *2015 Statistical Yearbook*. Available from: http://i2io42u7ucg3bwn5b3l0fquc.wpengine.netdna-cdn.com/wp-content/uploads/2017/02/2015-Yearbook-02102017-1-FINAL-FOR-PUBLICATION-USE-THIS-ONE.pdf.

Chamon, M. (2005) The importance and determinants of international remittances to Samoa. In *Samoa: selected issues and statistical appendix*, Country Report 05/221, Washington, DC, International Monetary Fund, June.

Christensen, J., and Hampton, M. (2000) The economics of offshore: who wins, who loses? *The Financial Regulator*, 4(4), 24–26.

Connell, J. (2006) Nauru: the first failed Pacific state? *The Round Table: Commonwealth Journal of International Affairs*, 95(383), 47–63.

Connell, J. (2013) *Islands at risk? Environments, economies and contemporary change*. Cheltenham, Edward Elgar Publishing.

Cour des Comptes (2013) *L'autonomie fiscale en outre-mer*. Available from: www.ccomptes.fr/Publications/Publications/L-autonomie-fiscale-en-outre-mer.

Demas, W.G. (1965) *The economics of development in small countries, with special reference to the Caribbean*. Montreal, QC, McGill University Press.

Dropsy, V., Montet C., and Poirine B. (2015) *Tourism, insularity and remoteness: a gravity based approach*. Working Paper 2015/1. Laboratoire Gouvernance et Développement Insulaire, Université de la Polynésie Française.

FEDOM (2016) *Tableau de Bord de FEDOM*. Available from: www.fedom.org/wp-content/uploads/2-15/06/TdB-15-Janv-2016.pdf.

Feyrer, J., and Sacerdote, B. (2009) Colonialism and modern income: islands as natural experiments. *Review of Economics and Statistics*, 91(2), 245–262.

Fichtner, J. (2016) The anatomy of the Cayman Islands offshore financial centre: Anglo-America, Japan, and the role of hedge funds. *Review of International Political Economy*, 23(6), 1034–1063.
Financial Action Task Force (2005a) *Money laundering and terrorist financing typologies 2004–2005*. Paris, OECD.
Financial Action Task Force (2005b) *Annual and overall review of non-cooperative countries or territories June 2005*. Paris, OECD.
Furlong, K., and Ludlow, E.M. (2016) *Results of the first comprehensive revision of the territorial economic accounts – new estimates of GDP for 2014 and revised estimates for 2002–2013*. Available from: www.bea.gov/scb/pdf/2016/04%20April/0416_territorial_economic_accounts.pd.
Gay, J.-C. (2012) Why is tourism doing poorly in Overseas France? *Annals of Tourism Research*, 39(3), 1634–1652.
Guillaumont, P. (2010) Assessing the economic vulnerability of small island developing states and the least developed countries. *Journal of Development Studies*, 46(5), 828–854.
Hampton, M.P. (1996a) Sixties child? The emergence of Jersey as an offshore finance centre: 1955–71. *Accounting, Business and Financial History*, 6(1), 51–71.
Hampton, M.P. (1996b) *The offshore interface: tax havens and offshore finance centres in the global economy*. Basingstoke, Palgrave Macmillan.
Hampton, M., and Christensen, J. (2002) Offshore pariahs? Small island economies, tax havens and the reconfiguration of global finance. *World Development*, 30(2), 1657–1673.
Harris, J.R., and Todaro, M.P. (1970) Migration, unemployment and development: a two-sector analysis. *American Economic Review*, 60(1), 126–142.
Hein, P.C. (1988) Problems of small island economies. In J. Crusol, P. Hein and F. Vellas (eds.), *L'enjeu des petites économies insulaires*, Paris, Economica, pp. 1–45.
Hintjens, H.M., and Newitt, M.D.D. (eds.) (1992) *The political economy of small tropical islands: the importance of being small*. Exeter, University of Exeter Press.
IEDOM (Institut d'Emission d'Outre-Mer) (2006) *Evolution des principaux indicateurs economiques, monetaires et financiers dans les DOM et les Collectivités d'Outre-Mer*. Available from www.iedom.fr/doc/principaux_indicateurs_economiques_DOM2.pdf#search=%22evolution%20des%20principaux%20indicateurs%20economiques%20monetaires%20et%20financiers%20dans%20les%20DOM%22.
IEDOM (2016). Balance-of-payments statistics for French Polynesia and New Caledonia. Available from www.ieom.fr/ieom/balance-des-paiements-46/les-rapports-annuels.html.
Kerr, S.A. (2005) What is small island sustainable development about? *Ocean & Coastal Management*, 48(7–8), 503–524.
McDaniel, C.N., and Gowdy, J.M. (1999) The physical destruction of Nauru: an example of weak sustainability. *Land Economics*, 75(2), 333–338.
McDaniel, C.N., and Gowdy, J.M. (2000) *Paradise for sale: a parable of nature*. Berkeley, CA, University of California Press.
McElroy, J.L. (2006) Small island tourist economies across the life cycle. *Asia Pacific Viewpoint*, 47(1), 61–77.
McElroy, J.L., and de Albuquerque, K. (1995) The social and economic propensity for political dependence in the insular Caribbean. *Social and Economic Studies*, 44(1), 167–193.
McElroy, J.L., and Parry, C. (2010) The characteristics of small island tourist economies. *Tourism and Hospitality Research*, 10(4), 315–328.
McElroy, J.L., and Parry, C. (2012) The long term propensity for political affiliation in island microstates. *Commonwealth and Comparative Politics*, 50(4), 403–421.
McElroy, J.L., and Pearce, K.B. (2006) The advantages of political affiliation: dependent and independent small island profiles. *The Round Table: Commonwealth Journal of International Affairs*, 95(386), 529–539.
Markoff, A, (2009) From obscurity to offshore giant. *Cayman Islands Financial Review*, 5 January, 14 April, 17 April, 7 July, 1 October and 5 October 2009. Available from www.caymanfinancialreview.com/2009/01/05/part-1-the-early-years-1960s-the-cayman-islands/.
Matsen, E., and Torvik, R. (2005) Optimal Dutch disease. *Journal of Development Economics*, 78(2), 494–515.
Milne, S. (2005) *The economic impact of tourism in SPTO member countries: Final Report*, South Pacific Tourism Organisation, August. Available from: http://csrs2.aut.ac.nz/NZTRI/nztrinew/documents/Pacific_Economic_Impact_Report.pdf.
Newitt, M.D.D. (1992) The perils of being a microstate: São Tomé and the Comoros Islands since independence. In H.M. Hintjens and M.D.D. Newitt (eds.), *The political economy of small tropical islands: the importance of being small*. Exeter, University of Exeter Press, pp. 76–92.

Oberst, A., and McElroy, J.L. (2007) Contrasting socio-economic and demographic profiles of two, small island, economic species: MIRAB versus PROFIT/SITE. *Island Studies Journal*, 2(2), 163–176.
Poirine, B. (1993) Le développement par la rente dans les petites économies insulaires. *Revue Economique*, 44(6), 1169–1199.
Poirine, B. (1994) Rent, emigration and unemployment in small islands: the MIRAB model and the French Overseas Departments and Territories. *World Development*, 22(12), 1997–2009, December.
Poirine, B. (1995a) *Les petites economies insulaires: theorie et strategies de developpement*. Paris, Harmattan.
Poirine, B. (1995b) Toujours plus est-il toujours mieux? Refus du développement, emigration et rationalité économique. *Revue d'économie du développement*, 2(1), 29–56.
Poirine, B. (1996) Is more always better? The South Pacific viewpoint on development and cultural change. *Pacific Viewpoint*, 36(1), 47–71.
Poirine, B. (1997) A theory of remittances as an implicit family loan arrangement. *World Development*, 25(4), 589–611.
Poirine, B. (1999) A theory of aid as trade with special reference to small islands. *Economic Development and Cultural Change*, 47(4), 831–852.
Poirine, B. (2006) Remittances sent by a growing altruistic diaspora: how do they grow over time? *Asia-Pacific Viewpoint*, 47(1), 93–108.
Poirine, B. (2007) Éloignement, insularité et competitivité dans les petites économies d'outre-mer: s'ouvrir pour soutenir la croissance? Available from: https://hal.archives-ouvertes.fr/hal-2007.
Poirine, B. (2011) *Tahiti: une economie sous serre*. Paris, l'Harmattan.
Roberts, S. (1995) Small place, big money: the Cayman Islands and the international financial system. *Economic Geography*, 71(3), 237–256.
Shaxson, N. (2011) *Treasure islands: uncovering the damage of offshore banking and tax haven*. New York, Palgrave Macmillan.
SNIJ Database (2017) *Subnational island jurisdictions database*. Charlottetown, Canada: Institute of Island Studies, University of Prince Edward Island. Available from http://projects.upei.ca/iis/island-jurisdiction-database/.
Streeten, P. (1993) The special problems of small countries. *World Development*, 21(2), 197–202.
Suss, E.C., Williams, O.H., and Mendis, C. (2002) *Caribbean offshore financial centers: past, present and possibilities for the future*, Working Paper, WP 02/88, Washington, DC, International Monetary Fund.
Tisdell, C.A. (2016) The MIRAB model of small island economies in the Pacific and their security issues. In A. Holz, M. Kowasch and O. Hasenkamp (eds.), *A region in transition: politics and power in the Pacific Island countries*, Saarbrucken, Germany, Saarland University Press, pp. 431–450.
UN (2016) *Statistical Yearbook 2016*. Available from: https://unstats.un.org/unsd/publications/statistical-yearbook.
UN (2017) *UN national accounts database*. Available from: http://unstats.un.org/unsd/snaama/resQuery.asp.
United Nations Development Programme (UNDP). (2016) *Human Development Report 2016*. New York: UNDP. Available from: http://hdr.undp.org/en/2016-report/download.
US Census Bureau (2016). International database. Available from: www.census.gov/population/international/data/idb/informationGateway.php.
Vine, D. (2011) *Island of shame: the secret history of the US military base on Diego Garcia*. Princeton, NJ, Princeton University Press.
Winters, L.A. (2005) Policy challenges for small economies in a globalising world. In S. Chand (ed.), *Pacific Islands regional integration and governance*. Canberra, ANU Asia Pacific Press. Available from: http://press.anu.edu.au/publications/pacific-islands-regional-integration-and-governance/download.
Winters, L.A., and Martins, P.M.G. (2004a) When comparative advantage is not enough: business costs in small remote economies. *World Trade Review*, 3(3), 347–383.
Winters, L.A., and Martins, P.M.G. (2004b) Beautiful but costly: business costs in small remote economies. *Economic Paper 67*. London, Commonwealth Secretariat.
World Bank (2016) *World development indicators*. Available from: http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators.
WTO (2017) *Database of merchandise trade statistics*. Available from: http://stat.wto.org/StatisticalProgram/WsdbExportZip.aspx?Language=E.