WPS7102

Policy Research Working Paper 7102

Public Sectors in the Pacific Islands

Are They 'Too Big' and Do They 'Crowd Out' the Private Sector?

Virginia Horscroft

WORLD BANK GROUP
Macroeconomics and Fiscal Management Global Practice Group
November 2014

Policy Research Working Paper 7102

Abstract

Public sectors in the Pacific Islands are frequently described as being "too big" and as "crowding out" private sector economic activity. Reducing their size, it follows, would provide much-needed space for private sector expansion and result in higher levels of economic growth. This paper addresses these issues, arguing that there is not a good case for supposing that public sectors in the Pacific Islands are excessively large, when the challenges of public administration and public service delivery in such small, remote, dispersed, and divided states are taken into account. Rather than being preoccupied with their size, it would be more useful to focus on whether the resources available to their public sectors are being used efficiently and effectively to provide an adequate range and quality of administrative functions and public services. The paper also argues that, at a general level, the case for crowding out in the Pacific Islands is not particularly compelling, and that it would be more useful to focus on the trade-offs for the private sector of public sector engagement in any given administrative function or area of service delivery. In light of the arguments put forward, the paper sets out the key elements of a refocused agenda on public sector reform in the Pacific Islands.

This paper is a product of the Macroeconomics and Fiscal Management Global Practice Group. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at vhorscroft@worldbank.org.

Public Sectors in the Pacific Islands: Are They 'Too Big' and Do They 'Crowd Out' the Private Sector?

Virginia Horscroft*

JEL CLASSIFICATION NUMBERS: D20, H11, H60, H83, J45

KEYWORDS: Government size, public administration, public service wage bills, crowding out, public sector employment, production costs, small states, micro states, Pacific Islands.

*Virginia Horscroft is a Senior Economist for the Pacific Islands at the World Bank. The author is most grateful to Tobias Haque, Vivek Suri, Vivek Srivastava, Robert Utz, Mathew Verghis and Willy McCourt for their very valuable comments and suggestions on this paper.

I. INTRODUCTION

In the development discourse on Pacific Island Countries (PICs), their public sectors are typically regarded as being excessively large.[1] An earlier World Bank engagement framework for the PICs, for example, described their public sectors as 'bloated' (World Bank, 2005, p. 7). Moreover, the public sectors in the PICs are frequently said to be so large that they 'crowd out' private sector activity.[2] The earlier World Bank engagement framework, for instance, attributed this 'crowding out' to the relatively large size of their public sectors combined with the sizeable involvement of state-owned enterprises in many economic activities (World Bank, 2005, p. 4). Reducing the size of public sectors in the PICs, it follows, would provide much-needed space for private sector expansion and result in higher levels of economic growth.

Is it the case, however, that the public sectors of the PICs are 'too big', according to some standard of appropriate size? Moreover, do the public sectors in the PICs 'crowd out' private sector activity? This paper seeks to address these two questions, and in so doing it poses a third: do these questions even represent useful approaches to analyzing the public sectors of the PICs? The paper argues that there is not a good case for supposing that the public sectors of the PICs are excessively large, when the challenges of public administration and public service delivery in such small, remote, dispersed and divided states are taken into account. Rather than being preoccupied with their size, it would be more useful to focus on whether the resources available to the public sectors in the PICs are being used efficiently and effectively to provide an adequate range and quality of administrative functions and public services. The paper also argues that – at a general level – the case for the crowding out of private sector activity in the PICs is not particularly compelling. This does not mean that specific segments of public sectors in individual PICs have not crowded out private firms in particular economic sectors, but that the argument that private sectors in the PICs are small because public sectors are large is not very sound. The paper suggests that it would be more useful to focus on the trade-offs for the private sector of public sector engagement in any given administrative function or area of service delivery.

Before proceeding, it is worth noting a kind of paradox that – while not unique to the PICs – is certainly characteristic of them. At the same time as their public sectors are described as being excessively large, capacity is found to be unacceptably low and increased staffing is recommended in virtually every assessment that is conducted of a public sector function or service in the Pacific. Typically, the public sectors of these relatively newly independent states are regarded as works-in-progress – still being in the process of growing into institutions that are capable of supporting fully-functioning sovereign states. How is it that the public sectors of the PICs can simultaneously be found to be too big and too small? This paper will offer an explanation of this paradox, in the Pacific context.

[1] See, for example, Duncan *et al* (1999, pp. 8-13), World Bank (2005, pp. 4, 7), Duncan and Gilling (2005, p. 1), Asian Development Bank (2008, p. 9) and Asian Development Bank (2009, pp. 4-5, 10-11).
[2] *Ibid.*

II. THE SIZE OF PUBLIC SECTORS IN THE PICS

A. The size of public sectors in small states

In the academic literature on small states, it is widely acknowledged that small states require relatively large public sectors because they are unable to take advantage of economies of scale in public administration.[3] This stems from the fact that the provision of public goods and services is subject to a minimum scale – that is, there is a certain scale where this provision cannot be further divided, even if the need for the good or service is not sufficient to fully utilize what is being provided. There needs to be one teacher, for instance, even if there are only a handful of students; a forensics unit can have one fingerprint machine, but not half a fingerprint machine; and physical port infrastructure must exist all year, even if ships use it on only a handful of days. If the use to be made of a public good or service is not sufficiently large for it to exceed that minimum scale, a state will not be able to take advantage of economies of scale in providing that good or service, making its provision disproportionately costly.

In surveys of the size of public sectors in different states, it is evident that small states do indeed tend to have proportionately larger public sectors than do larger states. Using a global data set, Medina Cas and Ota (2008, pp. 6-7) show this for government expenditure and the public service wage bill as a share of GDP. Using a data set for the Americas, Carrizosa (2007) makes the same point not only for government expenditure and the public sector wage bill, but also for the number of public sector workers as a share of the labor force.

Table 1 presents summary data for developing country members of the World Bank that are small states, defined by populations of fewer than one million people.[4] As the table shows, the populations of these small states vary in size from Tuvalu (with about 10,000 people) to Fiji (with just over 880,000 people). The average population of these states is just under 340,000. While their economies also vary considerably in size, their very minute scale is clear from the fact that the average GDP of these small economies is less than 1 percent of the average GDP of non-small middle-income countries (MICs). The vast majority of these small states are island states. Their per capita income levels vary substantially, from Comoros at US$ 880 to The Bahamas at US$ 20,600, but most are classified by the Bank as MICs. While the size of their public sectors also varies, these tend to be larger than the average for non-small MICs.

[3] See, for instance, Srinivasan (1986, p. 211), Lowenthal (1987, pp. 35, 43-44), Bray (1991, p. 67), Baker (1992, pp. 15-17), Streeten (1993, pp. 197-199), Farrugia (1993, pp. 221-222), Medina Cas and Ota (2008, pp. 13-14), Brown (2010, p. 52) and Sarapuu (2010, p. 34).

[4] There is considerable debate in the literature on how 'small' should be defined, which it is not the purpose of this paper to engage in. This paper simply adopts the most common approach – that of defining small by population size – and uses one of the typical thresholds applied – that of one million people. It should be noted that by virtually any definition employed in the literature, all of the PICs are classified as small.

Table 1: Summary Data for Small States

	Population[1]	GDP as a Share of Average GDP of Other MICs[2]	Island State	GNI Per Capita, Atlas Method (Current US$)[3]	Income Category[4]	Expenditure Share of GDP[5]	Wage Bill Share of GDP[5]
Average	339,231	0.77%	-	7,144	-	41.0%	11.8%
Antigua and Barbuda	89,985	0.39%	Y	12,910	HIC	28.6%	8.7%
Bahamas, The	377,374	2.77%	Y	20,600	HIC	22.0%	7.5%
Barbados	284,644	1.44%	Y	15,080	HIC	40.5%	11.5%
Belize	331,900	0.50%	N	4,660	UMIC	28.7%	10.0%
Bhutan	753,947	0.59%	N	2,460	LMIC	46.4%	1.1%
Cape Verde	498,897	0.59%	Y	3,630	LMIC	38.7%	11.6%
Comoros	734,917	0.21%	Y	880	LIC	23.7%	9.0%
Djibouti	872,932	0.46%	N	1,030	LMIC	37.3%	13.4%
Dominica	72,003	0.16%	Y	6,760	UMIC	36.6%	10.1%
Equatorial Guinea	757,014	4.89%	N	14,320	HIC	32.7%	1.2%
Fiji	881,065	1.26%	Y	4,430	UMIC	28.2%	8.7%
Grenada	105,897	0.26%	Y	7,460	UMIC	26.8%	8.6%
Guyana	799,613	0.97%	N	3,750	LMIC	31.2%	9.5%
Kiribati	102,351	0.05%	Y	2,620	LMIC	89.8%	27.7%
Maldives	345,023	0.72%	Y	5,600	UMIC	41.8%	10.2%
Malta	423,282	2.97%	Y	19,730	HIC	42.7%	13.4%
Marshall Islands	52,634	0.05%	Y	4,200	UMIC	64.1%	21.4%
Micronesia, Federated States	103,549	0.11%	Y	3,430	LMIC	65.7%	22.2%
Montenegro	621,383	1.39%	N	7,260	UMIC	44.1%	11.2%
Palau	20,918	0.08%	Y	10,970	UMIC	58.5%	21.0%
Samoa	190,372	0.22%	Y	3,430	LMIC	43.1%	9.0%
Sao Tome and Principe	192,993	0.10%	Y	1,470	LMIC	49.2%	8.2%
Seychelles	89,173	0.40%	Y	12,530	UMIC	30.1%	7.5%
Solomon Islands	561,231	0.34%	Y	1,610	LMIC	47.6%	9.4%
St. Kitts and Nevis	54,191	0.23%	Y	13,460	HIC	35.8%	11.5%
St. Lucia	182,273	0.42%	Y	7,090	UMIC	25.6%	9.0%
St. Vincent and the Grenadines	109,373	0.23%	Y	6,580	UMIC	29.6%	11.0%
Suriname	539,276	1.64%	N	9,260	UMIC	24.8%	8.5%
Tonga	105,323	0.15%	Y	4,490	UMIC	32.8%	11.3%
Tuvalu	9,876	0.01%	Y	6,630	UMIC	97.9%	31.2%
Vanuatu	252,763	0.26%	Y	3,130	LMIC	26.7%	11.0%

Notes: (1) Data for 2013; (2) GDP (Current US$) - Data for 2013, except Bahamas, Barbados, Malta 2012; (3) Data for 2013, except Bahamas, Barbados, Malta 2012, Djibouti 2005; (4) Classification based on 2013 GNI per capita data; (5) Average, latest three years available *Source: WDI*

B. The size of public sectors in the PICs

If we look specifically at the public sectors of the PICs, we can see that they tend to be larger not only than the public sectors of non-small MICs, but also than the public sectors of other small states. There is, however, considerable variation in the size of public sectors among the PICs. Charts 1 to 4 present these comparisons for different measures of public sector size: total

expenditure as a share of GDP; current expenditure as a share of GDP; the public service wage bill as a share of current expenditure; and the public service wage bill as a share of GDP. None of these measures is unproblematic in itself,[5] but they do paint a broadly similar picture of the trends in comparative state size, lending some credence to those trends.

Looking first at Chart 1, on average the public sectors of the PICs appear to be considerably larger than those of other small states, which are in turn larger than those of non-small MICs. These cross-country comparisons of total expenditure to GDP are potentially problematic, however, to the extent that countries differ in the manner in which donor-funded expenditure is included in the government budget. The considerable variation in public sector size among the PICs indicated by the chart, is made particularly stark if we separate the PICs into categories – the five PICs whose expenditure is roughly in line with other small states (Vanuatu, Fiji, Tonga, Samoa and the Solomon Islands – labelled the 'PICs-5'), the three US Compact PICs with higher expenditure (Palau, the Marshall Islands and the Federated States of Micronesia – the 'PICs-3'), and the two PICs with higher expenditure still (Kiribati and Tuvalu – the 'PICs-2').

If we look at the comparison based on current expenditure as a share of GDP in Chart 2, we see a similar pattern to that in Chart 1, except that the average size of non-PIC small states and non-small MICs is similar by this measure. This measure overcomes the potential problem that donor-funded expenditure causes the total expenditure measure, given that donor expenditure tends to be dominated by capital projects. But this measure only tells part of the story of state size, because it excludes capital expenditure. That exclusion appears to be significant, given that the contrast between Charts 1 and 2 indicates that capital expenditure is a key driver of the larger size of public sectors in small states. The pattern of variation among PICs in Chart 2 is similar to that in Chart 1. The difference is that the exclusion of capital spending eliminates the difference between the average state size for the PICs-5 and non-PIC small states. But the PICs-3 and PICs-2 groups are still markedly larger than non-PIC small states in terms of current expenditure.

If we look at the public service wage bill as a share of current expenditure in Chart 3, we see a much greater degree of uniformity among small states. While there is some variation, it seems as though different small states have settled on a roughly similar mix of labor and non-labor current inputs to public service provision. The input mix in small states does, however, appear to have a higher proportion of labor inputs than is the case for non-small MICs.

Finally, if we look at the public service wage bill as a share of GDP in Chart 4, we can see a similar pattern to that observed in Chart 1. Measured by their wage bills, the public sectors of the PICs appear to be larger on average than the public sectors of non-PIC small states, which are in turn larger than those of non-small MICs. There is considerable variation among the PICs, however, with the higher average for PICs driven by the PICs-3 and PICs-2 groups.

[5] This includes because what is counted as total expenditure, current expenditure and the public service wage bill – especially the scope of staff and allowances covered – in the underlying data need not be consistent across countries.

Chart 1: Total Expenditure as a Share of GDP

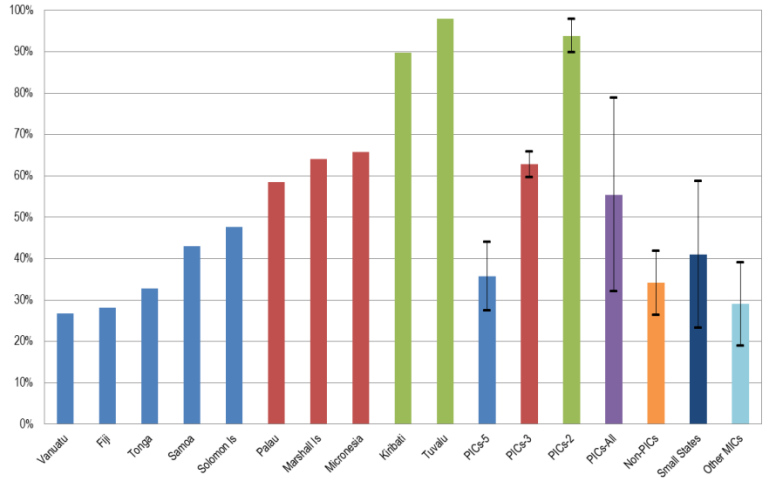


Chart 2: Current Expenditure as a Share of GDP

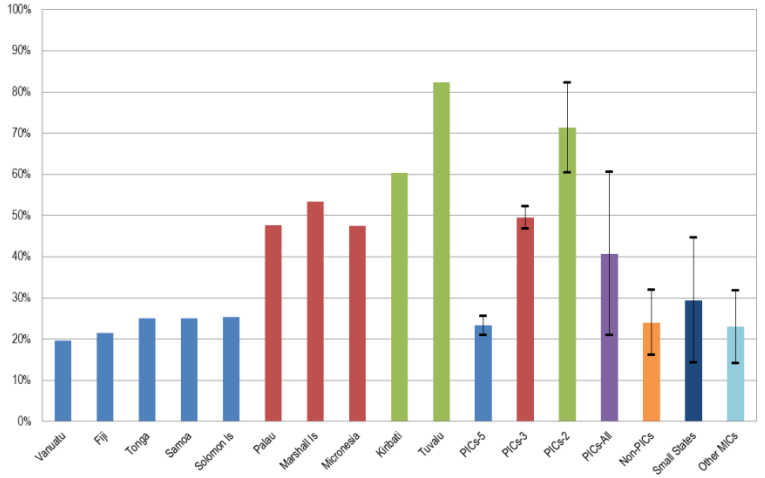


Chart 3: Wage Bill as a Share of Current Expenditure

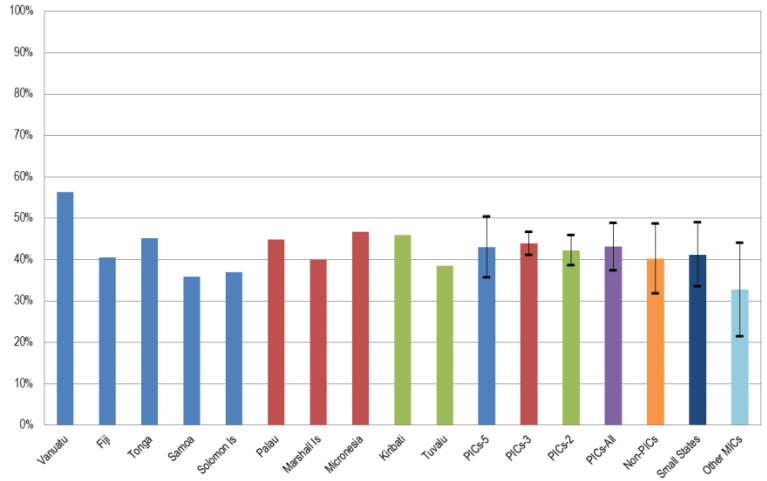
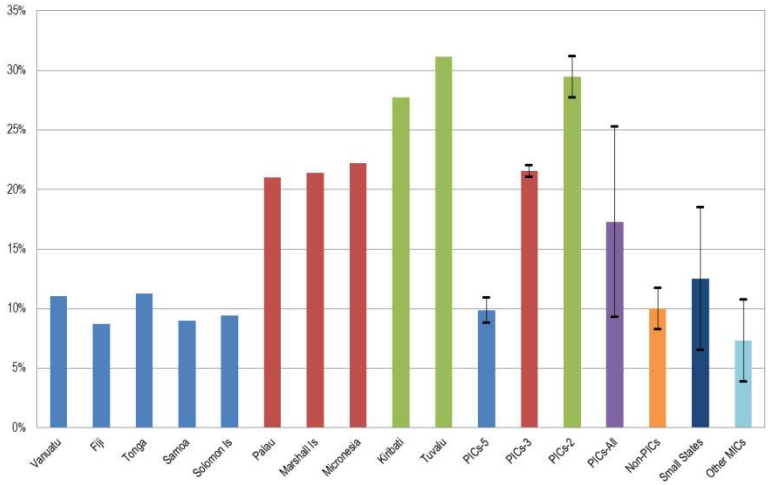


Chart 4: Wage Bill as a Share of GDP



Notes: All data are averages for the latest three years available; black bars indicate standard deviations among country groups

Source: World Bank; IMF

It would be useful to also be able to compare the number of public servants as a share of the population across states. But the available data has such limited country coverage and is so inconsistent – with respect to the categories of public servants and other public sector workers (including state-owned enterprise employees) that are included in it – that a reliable comparison has not yet been possible.

C. What explains the size and variation of public sectors in the PICs?

As we have already discussed, the provision of public goods and services is subject to a minimum scale and will be disproportionately costly if the need for the good or service is not sufficient to fully utilize that minimum scale of provision. Of course, the need for public goods and services in small states will not be insufficient to exceed the minimum scale of provision in all public goods and services. Instead, the extent to which small states will not be able to take advantage of economies of scale in the provision of public goods and services will depend on a number of factors, including the particular size and geography of the state in question and the specific public function concerned.[6]

Empirical evidence about the extent to which economies of scale matter in local government activities (where the populations covered are comparable to those in most small states) is quite useful in this respect. In a review of this evidence, Bish (2001, pp. 14-15) found most researchers to conclude that economies of scale could not be fully realized in approximately 20 percent of local government activities. This finding was valid for jurisdictions with populations at or above 10,000 to 20,000 people. It suggested that for approximately 80 percent of local government activities (like local roads, general teaching and general policing), economies of scale could be fully realized even with very small populations. But the remaining 20 percent of activities were disproportionately costly to provide because economies of scale could not be fully realized. For local governments, these tended to be specialized services that were needed only infrequently (homicide investigation services, for instance) and those with large capital requirements (water and sewerage services, for instance).

This empirical evidence from local governments suggests that the proportion of public functions in which small states will not be able to take advantage of economies of scale is likely to be significant. For local governments, it was about one in five activities. It seems plausible to argue that more of the types of functions handled by small states – as opposed to local authorities – will be ones where economies of scale can be realized only at quite a large scale (Baker, 1992, p. 7). Examples include major transport, energy and water infrastructure, court systems, consular services, defense services, legislative formulation, and general policy-making work – both in the core of the administration and at the policy level across all sectors. Thus, even for small states

[6] By minimum scale is meant the minimum capacity at which it is possible to provide a particular public good or service. Both fixed and variable costs will be incurred in establishing that capacity – as a very simple example, the minimum capacity for providing education services through a school will depend on having both a building (a fixed cost) and a teacher (a variable cost).

that have larger populations than the average local government (increasing the proportion of functions where they can take advantage of economies of scale), we would expect a higher proportion of the types of functions they handle to be subject to quite large minimum scales.

It also seems plausible to argue that small states with populations that are extremely small, thinly dispersed or territorially divided are likely to encounter a greater range of public functions in which they are unable to take advantage of scale economies than other small states. Not only will small states that have extremely small populations be unable to take advantage of economies of scale in the provision of a greater proportion of public goods and services than other small states, in many small states total population may understate the extent of the challenge faced. Where populations are thinly dispersed – rather than concentrated in one or a few major settlements – or where they are divided over many separate territories – as with the islands of an archipelago – small states will be less able to take advantage of scale economies in public administration than their total population figures would indicate (Brock, 1988, p. 305; Cox, et al., 2007, pp. 34-35; World Bank, 2011, p. 11). In such contexts, small states may not even be able to exploit economies of scale in the provision of local roads, general teaching or general policing services – activities that account for large shares of public personnel and spending and where economies of scale can normally be exploited with fairly small populations.

There is a further reason to expect public administration to be disproportionately costly in some small states. Where these states are characterized by insularity (typically because they are islands), their private sectors cannot take advantage of economies of scale, making the production of non-tradeable goods and services disproportionately. Where these states are also remote from major markets, the costs of tradeable goods and services that they face will also be higher, because of high transport costs. To the extent that non-tradeable and tradeable goods and services are inputs to government activity, this will inflate the input costs faced by public sectors in such small remote states, pushing up government expenditure and/or prompting governments to adopt input mixes with a higher proportion of labour relative to other inputs (Srinivasan, 1986, pp. 211, 213; Streeten, 1993, p. 199; Winters & Martins, 2004, pp. 369-375; Medina Cas & Ota, 2008, pp. 13-14; World Bank, 2011, pp. 11-13). The smaller and the more remote the state, thus the more pronounced the lack of economies of scale and the higher the transport costs, the greater this cost inflation could be expected to be. Where small states are themselves internally spread over large distances – as some archipelagos are – this cost inflation is likely to be even larger (World Bank, 2011, p. 11).

In general, then, we could expect that the smaller the state is, the more dispersed or territorially divided its population is, and the more remote the state is from large markets, the more disproportionate will be the cost of providing public goods and services. Might variations in these factors help to explain the two observations made earlier in the paper, first that the public sectors of the PICs tend to be larger than those of other small states, and secondly that there is considerable variation in the size of public sectors among the PICs? Table 2 presents summary

data on some possible indicators of these factors for the PICs and the other island countries among the small states listed in Table 1.

Table 2: Summary Data for Pacific, Caribbean and Other Small Island Developing States

	Population[1]	Share of Population in Settlements of >10,000[2]	Estimated Number of Inhabited Islands[3]	Estimated EEZ (sq km)[4]	Average GDP-Weighted Distance from Markets (km)[5]
Pacific (Average)	*228,008*	*28.1%*	*69*	*1,428,143*	*12,035*
Fiji	881,065	27.2%	110	1,281,122	12,964
Kiribati	102,351	43.6%	21	3,437,345	11,531
Marshall Islands	52,634	46.3%	24	1,992,232	11,090
Micronesia, Federated States	103,549	12.9%	65	2,992,597	10,987
Palau	20,918	69.1%	8	604,289	10,600
Samoa	190,372	22.2%	4	131,812	12,627
Solomon Islands	561,231	12.4%	347	1,597,492	12,215
Tonga	105,323	24.4%	36	664,853	13,181
Tuvalu	9,876	0.0%	8	751,797	12,279
Vanuatu	252,763	22.6%	65	827,891	12,879
Caribbean (Average)	*159,468*	*37.9%*	*6*	*130,012*	*7,915*
Antigua and Barbuda	89,985	35.8%	2	107,914	7,788
Bahamas, The	377,374	80.1%	30	629,293	7,499
Barbados	284,644	36.1%	1	186,107	8,057
Dominica	72,003	25.5%	1	28,626	7,920
Grenada	105,897	36.0%	1	26,158	8,175
St. Kitts and Nevis	54,191	29.2%	2	10,201	7,791
St. Lucia	182,273	34.8%	1	15,484	8,011
St. Vincent and the Grenadines	109,373	25.5%	6	36,314	8,078
Other (Average)	*380,714*	*38.0%*	*43*	*571,779*	*8,355*
Cape Verde	498,897	38.6%	9	796,840	7,421
Comoros	734,917	20.1%	3	164,691	9,675
Maldives	345,023	27.5%	200	916,189	9,366
Malta	423,282	52.8%	3	55,556	5,874
Sao Tome and Principe	192,993	55.3%	3	165,364	8,314
Seychelles	89,173	33.5%	40	1,332,031	9,483

Notes & Sources: (1) Data for 2013, WDI; (2) Data for 2000, Global Rural-Urban Mapping Project, Version 1 and WDI; (3) CIA World Factbook, Wikipedia and Country Sources; (4) Sea Around Us Project; (5) World Bank staff calculations.

We can see from the table that the average population size of the PICs sits between that of the small island states of the Caribbean and the other small island developing states that are

members of the Bank. On average, the populations of the PICs are somewhat more thinly spread than those in the other two groups, as indicated by the proportion of the population living in settlements of 10,000 people or more. The populations of the PICs also tend to be spread over more territorial subdivisions than those in the other two groups, as indicated by the number of inhabited islands – with a very stark contrast between the PICs and the Caribbean, where many states consist of only a single island. In terms of the geographic spread of these states, the PICs again appear to be the most dispersed of the groups by a large margin, as indicated by their exclusive economic zones (EEZs). The PICs are also markedly more remote from major markets than the other groups, as indicated by a measure of remoteness that weights the distance of a given country from every other country in the world by the GDP of those other countries, so distances from large markets weigh more heavily than distances from small markets.

To provide a graphical illustration of the differences in these factors both between the PICs and the other two groups, and among the different PICs, we can construct an index of remoteness and dispersion. The different indicators presented above are merely different ways of looking at the same core factors of remoteness and dispersion, and thus overlap in many ways. The ones most strongly correlated with public sector size are the indicators of remoteness and geographic spread as measured by EEZs. The construction of an index from these two indicators is done simply to combine them into one variable, in order to more easily illustrate its relationship with the size of public sectors, at the same time as the relationship between population and the size of public sectors is considered.[7] The closer the index is to zero, the smaller is the degree of remoteness and dispersion of that country; the closer the index is to one, the greater is the degree of remoteness and dispersion. Details about the construction of the index are provided in Annex 1.

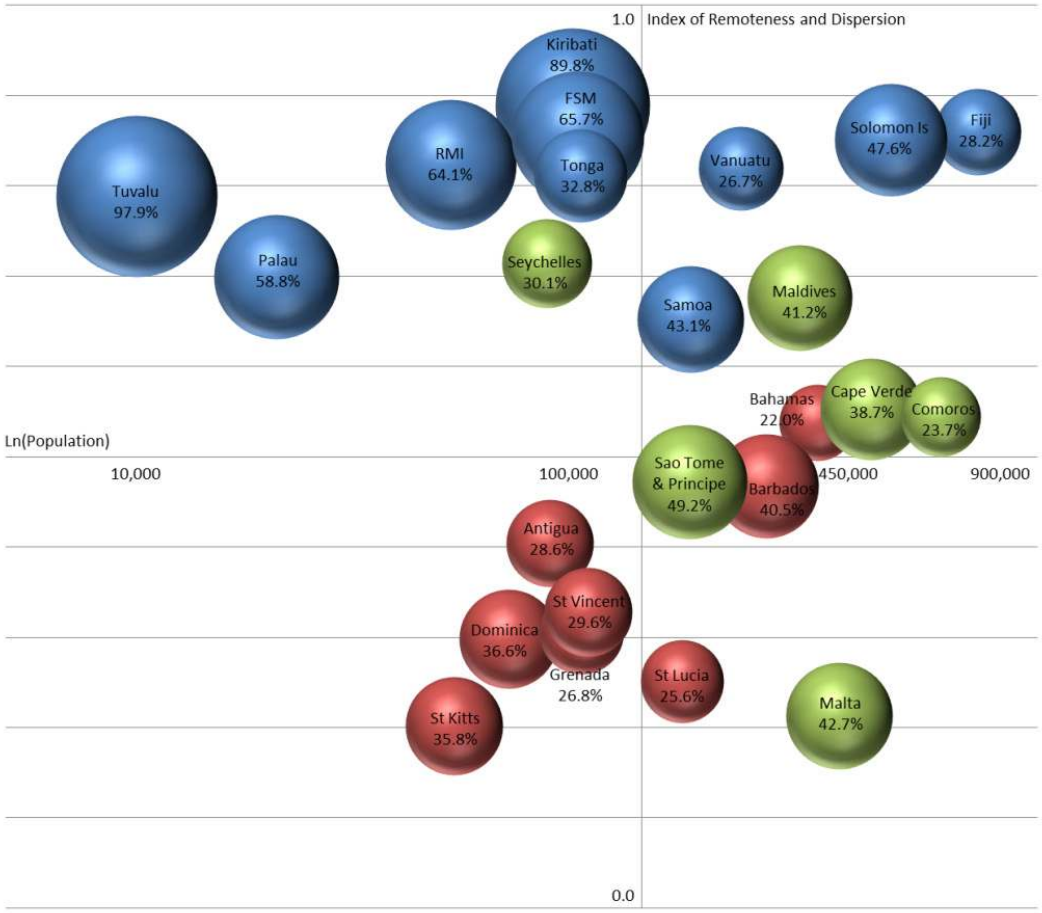
The most striking aspect of Chart 5 is how distinct the PICs appear to be from the small island states of the Caribbean especially, but also from most of the other small island developing states that are members of the Bank – once remoteness and dispersion are taken into account through the index. The PICs occupy the upper part of the chart (indicating a range of population sizes but a generally higher degree of remoteness and dispersion), while the Caribbean islands tend to be concentrated in the lower part of the chart (with a generally lower degree of remoteness and dispersion) and the other islands are mostly concentrated in the right hand part of the chart (indicating generally larger populations, with varied degrees of remoteness and dispersion – though typically lower than for most PICs).

Chart 5 indicates that most of the PICs with very large public sectors are both very small and have a high degree of remoteness and dispersion. The PICs that have smaller public sectors tend to be those with larger populations or lower degrees of remoteness and dispersion. While these trends are by no means unwavering, we should not really expect them to be. The indicators underpinning the chart are fairly crude attempts to capture some of the factors that might inflate

[7] For this set of countries, per capita GNI does not show a strong relationship with public sector size as measured by total expenditure as a share of GDP – population size, remoteness and dispersion appear to be the dominant factors.

the cost of public service delivery in small island states, and the two indicators of remoteness and dispersion are arbitrarily attributed equal weight when aggregated in the index, so the results should be expected to be indicative only. Moreover, only a few factors contributing to public sector size are captured in the chart, so it inevitably misses many other factors that might be significant in individual country cases (the post-conflict status of the Solomon Islands, for instance, or the challenges of service delivery across its nearly 350 inhabited islands, which the use of the EEZ indicator for dispersion probably understates). Still, however imperfectly, remoteness and dispersion do seem to play a role in explaining both the larger size of public sectors in the PICs relative to other small island developing states, and the variation in public sector size among PICs.

Chart 5: Total Expenditure to GDP, Population, and Remoteness and Dispersion



Note: Size of bubbles indicates total expenditure as a share of GDP

An additional consideration to bear in mind when interpreting Chart 5 is that what we see in it as the sizes of public sectors in these states is not, of course, some equilibrium or ideal size, but their actual size at present – which is constrained by, among other factors, the resources available to each state. In part, the resources available to each state might reflect the challenges of public

administration in such small, remote and dispersed states, to the extent that these considerations influence the amount of development assistance that their development partners provide them with to supplement the domestic sources of revenue of these states. But that reflection will not be perfect, making it likely that at least some of the states shown in the chart may in fact need to expand their public sectors in order to provide an adequate range and/or quality of public goods and services, but be unable to afford to do so due to their constrained resources. Vanuatu might be a case in point here – faced with the considerable challenge of providing public services across 65 inhabited islands – where the size of the public sector we observe may not be large enough to provide an adequate level of services.

Overall, this analysis suggests that there may well be very good reasons for the large sizes of the public sectors observed in many of the PICs. That is because most of those PICs are either very small or have a very high degree of remoteness and dispersion. In this way, they are quite distinct from most of the other small island developing states that are members of the Bank. The arguments made above about why public service delivery might be even more disproportionately costly in states that are very small, have populations that are widely dispersed or territorially divided, and that are very remote from large markets, do appear to be roughly borne out in the evidence of actual public sector sizes in the PICs.

As a corollary of this, it would not seem to be particularly useful to continue to focus on the question of whether the public sectors in the PICs are 'too big' relative to some standard of appropriate size based either on averages for small states or averages for countries of similar income levels. Instead, the challenges of public service delivery in PIC contexts require that serious attention be paid to the implications for public sectors that arise with populations that are very small, widely dispersed or territorially divided, and that arise from remoteness from major markets.[8] As the final section of this paper will explore, it would be much more useful if attention were focused in the PICs on the extent to which their public sectors are carrying out their administration functions and providing public goods and services efficiently and effectively in their particular contexts, given the resources available to them.

III. THE 'CROWDING OUT' OF PRIVATE SECTOR ACTIVITY IN THE PICS

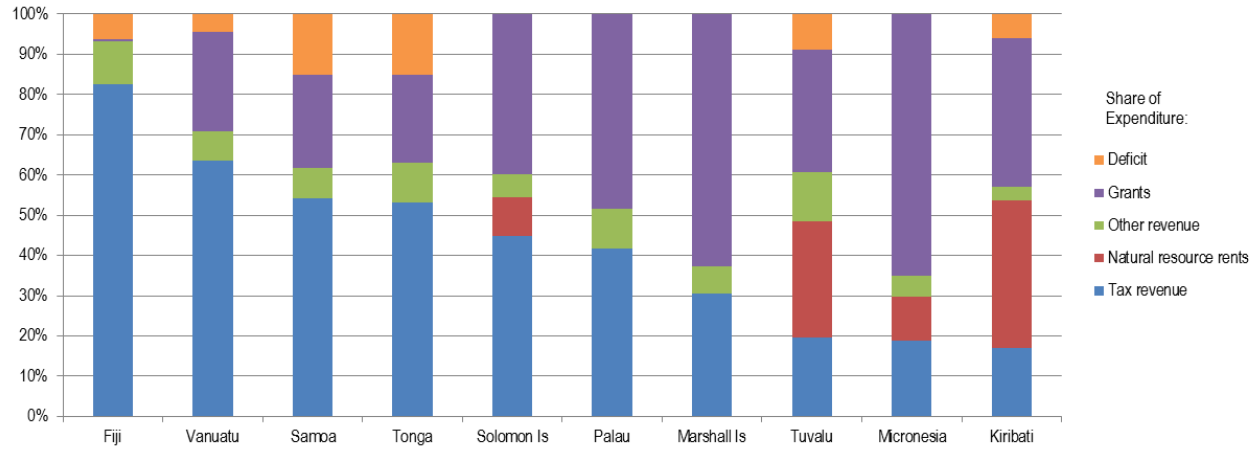
A. The arguments for public sectors 'crowding out' private sectors in the PICs

On the basis of being regarded as 'too big', the public sectors in the PICs are frequently said to be 'crowding out' private sector activity. In this context, the term 'crowding out' is not applied with its typical meaning of public sector deficits raising the cost of capital and thus reducing private sector investment. In most PICs, it is development assistance – rather than domestic debt

[8] This is, of course, in addition to considerations of different social expectations of the state in the different PICs (which are clearly important in all state contexts, if the large variation in state size even among OECD countries with similar income levels is anything to go by).

– that usually finances the bulk of their fiscal deficits, and in any case the monetary policy transmission mechanisms in most PICs have been found to be quite weak (Yang, et al., 2011), suggesting that the impact on private sector credit of additional government demand for domestic financing would likely be fairly limited.[9] Nor does the term 'crowding out' tend to be used to refer to the public sectors in the PICs placing an excessive tax burden on their private sectors, because for most PICs it is some combination of development assistance and natural resource rents – rather than tax revenues *per se* – that enable them to afford their relatively high levels of public sector expenditure (see Chart 6).

Chart 6: Aid flows and natural resource rents play key roles in financing expenditure in most PICs



Source: World Bank staff calculations, using IMF data

In the context of the PICs, there is a general sense in which the term 'crowding out' refers to public sector employment being sufficiently large that it prevents the private sector from using those labor inputs. But if this were the case, we would expect to see tight labor markets and little unemployment in the PICs. In reality, the situation in the PICs is precisely the reverse – widespread unemployment and underemployment is a pressing concern. In recognition of this, the arguments for 'crowding out' are sometimes presented more specifically, in ways that seem to better fit economic reality in the PICs. There are three main ways in which this is done.

1. Public sectors in the PICs are too large, in the sense that they pay public servants wages that are too high (a situation that is made possible by large aid flows in the PICs), thus inflating the general wage level in the economy and rendering uncompetitive private sector enterprises that would have been competitive if the wages were lower,[10] thereby lowering the level of economic growth (Duncan, et al., 1999, pp. 8-13; World Bank, 2005, p. 4; Duncan & Gilling, 2005, p. 17; UNESCAP, 2007, pp. 17, 59).

[9] Typically, any remaining deficits in the PICs reflect development projects that are financed by external loans (or in the case of Kiribati and Tuvalu are deficits financed by earnings from or drawdowns of sovereign wealth funds).
[10] In parallel, the large aid inflows support higher exchange rates, so these do not adjust downwards to lower wages by international standards and thus correct for the lack of competitiveness of private sector enterprises. (Such higher exchange rate would also raise the cost of imports and thus of public sector service provision using imported inputs.)

2. Public sectors in the PICs are too large, in the sense that they are involved in too many sectors of the economy that provide key infrastructure services to the private sector. The inefficiency of state-owned enterprise providers of infrastructure services drives up the cost of doing business for the private sector, again rendering uncompetitive private sector enterprises that would otherwise have been competitive (World Bank, 2005, p. 7; Asian Development Bank, 2008, pp. 9-10; Asian Development Bank, 2009, p. 4).

3. Public sectors in the PICs are too large, in the sense that they control too high a proportion of the capital stock of the economy (including as it is tied up in state-owned enterprises), lowering the level of economic growth because the public sectors (including state-owned enterprises) achieve a lower rate of return on that capital than the private sector would do – with regulatory barriers to entry or subsidies to public sector providers preventing the private sector from entering and competing effectively in these areas of activity (Asian Development Bank, 2008, pp. 9-10).[11]

Each of these three arguments revolves around a central theme of competitiveness. In the first and second arguments, private sector firms that would be competitive in PICs are rendered uncompetitive because excessive public sector wage levels or inefficient state-owned enterprises that provide key infrastructure services raise the cost of labor and other production inputs. In the third argument, private sector firms that would otherwise be competitive simply do not exist, because the public sector controls the capital that these firms would otherwise utilize (a worse outcome for the economy because the public sector uses that capital inefficiently).[12]

B. How valid are the arguments for 'crowding out' in the PICs?

Turning to the question of how valid these three arguments for crowding out are in the PICs, at a general level, it is apparent that the answer must be a matter of degree. It is necessarily true that if the input costs of businesses in the PICs were reduced (whether through lower wages, lower costs of infrastructure services, or both), some potential private sector firms at the margin that could not be competitive previously would become competitive. A key question, therefore, is whether there is reason to expect that there is a significant mass of potential firms occupying those margins in the PICs. Those margins would be delimited by the kinds of reductions in the general level of wages in the PICs that the first argument for crowding out suggests would result

[11] A parallel argument is occasionally made, that public sectors in the PICs employ an excessive number of skilled workers who are thus unavailable to the private sector, lowering overall productivity and growth in the economy because the public sector makes less good use of these skilled workers than the private sector would do (Asian Development Bank, 2008, p. 9). On its own, this argument does not appear to be very sound, because if the private sectors in the PICs had unfilled demand for skilled workers who were present in the labour market but employed by the public sector, the private sector could raise the wages it offered in order to lure those workers away from the public sector. It could only make sense if made alongside the first of the three arguments set out above.

[12] There are, of course, many other ways in which the public sectors in PICs might be hampering private sector activity (ineffective regulatory regimes, formal or informal restrictions on market entry, and so forth). The focus of this paper is only on how public sectors that are ostensibly excessively large crowd out private sector activity.

from a lowering of aid that leads to a reduction in public sector wages (either directly or via the depreciation of exchange rates), and/or by the kinds of reductions in the cost of infrastructure services that the second argument for crowding out suggests would result from the privatization of state-owned providers. Similarly, there is the question of how significant would be the increase in returns on capital anticipated under the third argument, if some of the capital stock that is currently controlled by the public sectors in the PICs were transferred to private hands.

The key piece of evidence to consider in respect of these questions is that provided by Winters and Martins (2004), who seek to quantify the competitiveness disadvantages of production in small remote states.[13] As explained earlier in this paper, we should expect that production costs for non-tradable goods and services will be higher in small states because it is not possible for them to exploit economies of scale or scope in production. This would also push up costs for firms that use these non-tradable goods and services as inputs to their production processes. For tradeable goods and services, the small size of a domestic economy does not – in itself – preclude the exploitation of economies of scale or scope in production, because firms can trade internationally and thereby gain access to large markets for their products. Similarly, they can import the tradeable inputs they require from large markets. But where a state combines very small size with extreme remoteness from major markets[14] – as the PICs do – the costs of international trade can make access to global markets prohibitively costly, in which case the size of the domestic economy can act as a binding constraint on firm productivity. Their firms would then face high input costs (whether due to lack of economies of scale in domestic production or high transport costs for imported inputs), and high transport costs for their goods and service exports. It is, therefore, the combination of very small size and extreme remoteness from major markets that pushes up production costs in these states. As Chart 7 illustrates, the PICs are quite unique in the combined challenges of small size and remoteness that they face.

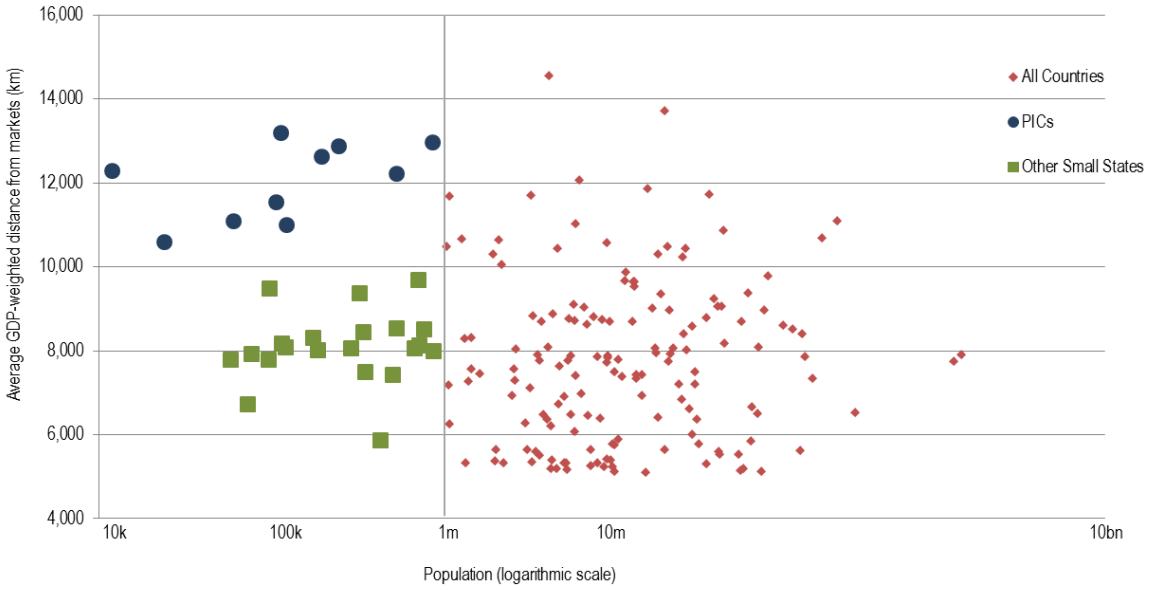
To quantify the competitiveness disadvantages of production in small remote states, Winters and Martins (2004, pp. 365-378) estimate cost inflation factors for three representative industries using a specially collected global dataset. The resultant cost inflation factors, illustrated in Chart 8, are shown for three examples of states with different population sizes – 12,000 people, 197,000 people, and 1.6 million people. In each instance, the cost inflation factors indicate the additional costs of production in the relevant industry and state, as a percentage of the costs of production in the median country (with a population of just over 10 million people). As the chart shows, for states as small as most PICs, these cost inflation factors are severe, making it unlikely that productive activity in such states could be competitive at the prices that prevail in

[13] For general discussions of the competitiveness disadvantages of production in small remote states, see Briguglio (1995, pp. 1616-1618), Encontre (1999, pp. 264-266), Grynberg (2001, pp. 290-291) and Armstrong & Read (2002, pp. 73-74). For more critical views, see Srinivasan (1986, p. 212) and Streeten (1993, p. 198).

[14] By remoteness from major markets is meant not distance *per se* but the costs of international trade, to which distance is a contributor. The high trade costs faced by the PICs are due primarily to their distance from major markets, small import and export volumes, geographic location away from major shipping routes, and lack of competition among the few international shipping lines that do serve them.

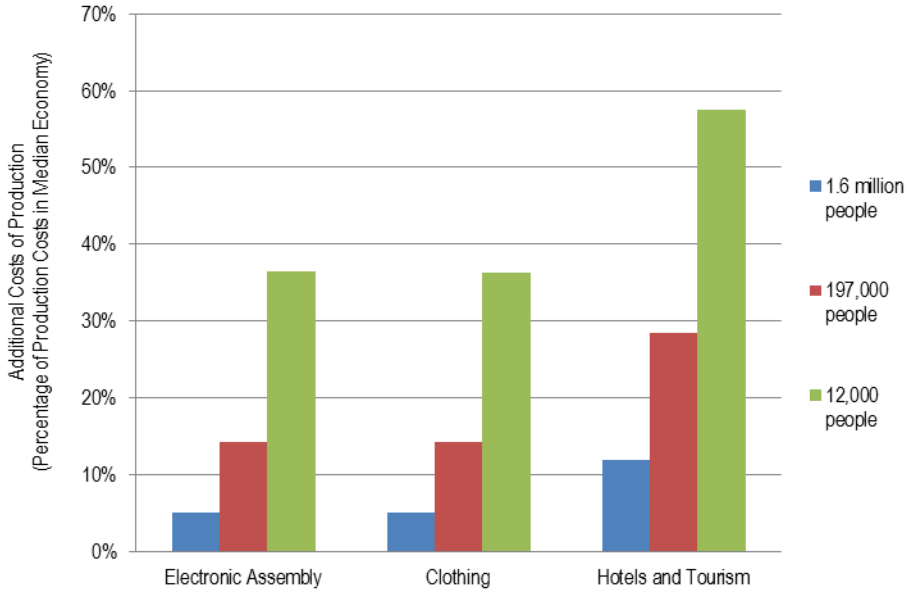
competitive global markets (*ibid*). It is important to note that these severe cost inflation factors are not limited to the production of goods; they are also significant for service industries due to the higher costs of the non-tradeable and tradeable inputs that service industries utilize.

Chart 7: The PICs are unique in their combination of small size and remoteness from major markets



Source: World Bank staff calculations, using WDI and CEPII (2005) data.

Chart 8: Production in small remote economies can face severe cost inflation



Source: Winters and Martins (2004, p. 373)

One particular aspect of Winters and Martins' findings is especially critical to the arguments about 'crowding out' in the PICs. Winters and Martins (2004, pp. 372-374) calculate what it would take for economic activity in small remote states to be competitive at the prices that prevail in competitive global markets. For the example of a state with a population of just under 200,000 (smaller than Vanuatu, and a little larger than Samoa), production would only be competitive with that in the median state if wages were about 60 percent less than those in the median state or returns to capital were more than 90 percent less. In the example of a state with a population of 12,000 people (smaller than Palau, and a little larger than Tuvalu), where the cost inflation factors are much more pronounced, production would not be competitive with that in the median state even if labor or capital were not remunerated at all. Even in the example of a state with a population of around 1.6 million (nearly double the size of the largest PIC – Fiji), where the cost inflation factors are more muted, production would only be competitive with that in the median state if wages were about 20–25 percent less than those in the median state, or capital earned 30–40 percent less than that in the median state.

Overall, Winters and Martins' findings do not imply that economic activity in states as small and remote as the PICs cannot be globally competitive. Certainly, the findings suggest it is unlikely that production could be competitive at the prices that prevail in competitive global markets. But if firms can secure some form of market rent or premium price, they could potentially cover their higher production costs (Winters & Martins, 2004, pp. 365-378; World Bank, 2011, pp. 9-13). Markets rents or premium prices tend to be available in markets for natural resources, have the potential to be secured in markets for goods and services that capitalize on natural endowments (like tourism services that capitalize on distinctive geographical characteristics), and to a more limited extent may be captured in particular niche markets. So in general, the PICs have the potential to be competitive in export areas where the available rents associated with the use of their scarce natural endowments are sufficient to cover their higher costs of production.[15]

While Winters and Martins' findings do not imply that economic activity in states as small and remote as the PICs cannot be globally competitive, they do suggest a significant narrowing of the set of feasible economic opportunities for such states. In such small and remote states, it would not seem plausible to assume that a significant mass of potential firms are at the margins of competitiveness, and would become competitive with the kinds of general wage reductions that might result from lower levels of development assistance, or the kinds of other input cost reductions that might result from the privatisation of state-owned infrastructure service providers. The types of productive activities that can secure market rents or premium prices to cover the higher production costs in small remote states are fairly narrow – mainly to be found in natural resource or endowment-based industries, and to a more limited extent in niche industries. In these areas, we could certainly expect that modest reductions in production costs may enable some firms at the margins to be competitive. But outside these few areas, where firms need to be

[15] For a more detailed discussion of these opportunities, see World Bank (2011).

able to cover their production costs at the prices prevailing in competitive global markets, Winters and Martins' findings suggest that modest reductions in production costs in such small remote states will not be sufficient to make firms competitive. Thus, we do not have a good reason to expect that a significant mass of firms across the economy will become competitive with the kinds of wage or other input cost reductions expected according to the arguments for crowding out in the PICs. This is because in the smaller states in Winters and Martins' estimates, modest wage reductions would not alter the fundamental competitiveness challenges faced – only very dramatic reductions would have the potential to do so – hence we should not expect these kinds of reductions in the public sectors of the PICs to have a transformational impact on their private sectors. Similarly, Winters and Martins' findings suggest that capital would have to receive virtually no or even a negative return for productive activity in industries that do not capture some form of rent or premium price to be competitive, implying that the fundamental constraints on returns to capital in states like the PICs are driven by small size and remoteness, rather than public or private ownership *per se*.

At a general level, therefore, the argument that the private sectors in the PICs are small because their public sectors are large, does not appear to be very sound. At the margins, some private sector firms could be expected to become competitive if public sector wages fell, driving down the overall wage level in the economy, or if the privatization of infrastructure service providers in the context of effective competition and regulation reduced other business input costs. This effect could be expected to be more marked in the larger PICs. But even so, for the reasons explored above, the impact is likely to be quite limited and confined to a fairly narrow range of sectors. Overall then, we could conclude that the extent to which relatively large public sectors in the PICs are crowding out private sector activity in some general sense is quite limited. That does not mean that specific segments of public sectors in individual PICs are not crowding out private firms in particular economic sectors – that could well still be the case. But at the more general level at which the crowding out arguments are typically made in the PICs – that their private sectors are small because their public sectors are large – these arguments do not seem to be particularly compelling.

In addition, it is important to recognize that reducing the size of public sectors in the PICs – in order to provide much-needed space for private sector expansion in accordance with the crowding out arguments – is likely to involve significant trade-offs. This is because at the same time as their public sectors may be crowding out private sector activity (albeit to a quite limited extent), they are also crowding in private sector activity, as the next section explores.

C. The arguments for public sectors 'crowding in' private sectors in the PICs

We have already seen that in most PICs, total government expenditure and the public service wage bill represent fairly large shares – and in some cases extremely large shares – of GDP (see Charts 1 and 4). What this means for most PICs is that the government is a very important source

of demand in the economy. Public sector procurement (including public sector procurement for development projects funded by development partners) is a direct source of demand for the goods and services provided by private sector firms. The wages paid to public servants are also an indirect source of demand for the goods and services provided by private sector firms. Given how large total government expenditure and the public service wage bill are as shares of GDP in most PICs, a significant proportion of the private sectors in these states provide goods and services to the public sector, public servants, or the members of the extended families of public servants with whom their wages are shared.

Thus, alongside considerations of the extent to which the relatively large public sectors in the PICs may be crowding out private sector activity at a general level, it is important to consider the extent to which they may be crowding in private sector activity at the same time. For example, if public expenditure fell via a reduction in public service wages (in line with the first argument for crowding out), there would be a trade-off for the private sector between the benefits of a generally lower wage level in the economy and the emergence of some newly competitive firms in a fairly narrow range of sectors (as explored above), and the costs of reduced demand for the goods and services of a range of firms for which public servants are an important customer base. Given the significance of public sector employment in the labour markets of many PICs,[16] these costs might be quite considerable. If some activities previously undertaken by the state or state-owned enterprises were transferred to private hands (in line with the third argument for crowding out), the private sectors would certainly increase in size as these activities were relabeled. It is also possible that there may be efficiency improvements in these activities, if the privatizations occurred in the context of effective competition and regulation, which could likewise prompt the emergence of some newly competitive firms in a narrow range of sectors. But this would not necessarily mean that private sectors in the PICs would be any more independent of public sector demand than they were previously, nor subject to a significantly different growth dynamic. The growth dynamic in these economies would still derive from the natural resource or niche market based industries in which these small remote states have the potential to be globally competitive.

In assessing the likely implications of reducing the size of the public sectors in PICs, in order to reduce the extent to which they crowd out private sector activity, the potential positive and negative implications should both be taken into account. Which side the balance would lie on would be specific to individual downsizing proposals and country contexts. The point being made here is simply that it is important not to focus exclusively on crowding out, and ignore the extent to which public sectors in the PICs are also crowding in private sector activity. One of the key findings of the Asian Development Bank's (2009, pp. 12-14, 20, 28-32) evaluation of public sector reform programs in the PICs, was that it was unrealistic for it to have been assumed that a reduction in the size of public sectors in the PICs would trigger an expansion in their private sectors and thus the reemployment of retrenched public sector workers – including because the

[16] In the Solomon Islands, for instance, the public sector accounts for some 30 percent of formal sector jobs; in Kiribati, the public sector accounts for nearly 80 percent of formal sector jobs (Haque & Packard, 2014, p. 5).

dependence of the private sectors in many of these PICs on public sector demand and the constrained growth opportunities for the private sector in such small states.

In summary, then, we have argued that – at general level – the extent to which the relatively large public sectors of the PICs are 'crowding out' private sector activity seems likely to be quite limited and that the flip-side of this situation must also be taken into account. That is, there is also an extent to which the public sectors in most PICs are 'crowding in' private sector activity. It is certainly true that the private sectors in most PICs are quite small, but this paper suggests that this is probably not primarily because the public sectors are large. Instead, the private sectors are small *per se*. The key driver of the small size of private sectors in most PICs is likely to be the narrow set of feasible economic opportunities available to states that are so small and so remote from major markets. It is this – rather than the large size of their public sectors – that is likely to be the key constraint on the range of feasible private sector activity.

IV. IMPLICATIONS FOR PUBLIC SECTOR REFORM IN THE PICS

This paper has argued for a shift in the focus of debate on public sectors in the PICs, away from what have until now been the predominant questions of whether their public sectors are 'too big' and are thereby 'crowding out' private sector activity. It would be more appropriate and more constructive for the agenda to be refocused on the extent to which public sectors in the PICs are being efficient and effective in providing public goods and services to their people and private sectors, given both their particular service delivery contexts and the resources available to them. In parallel, the rationale for public sector reform in the PICs could move away from a focus on reducing the size of public sectors in the PICs, towards a focus on the much more motivating object of enabling them to provide better services to their people and private sectors.

The paper has argued for the critical importance of paying attention to the challenges of service delivery for public sectors in the PICs that arise from having populations that are very small, widely dispersed or territorially divided, and remote from major markets. These factors tend to push up the cost of public service delivery – both in terms of increasing the numbers of public servants who may be required to provide a particular service to a certain standard across the population, and in terms of increasing the costs of that service provision. For any given level of available resources, this may mean that states that are especially small, dispersed or remote have to narrow the range of administrative functions and public goods and services they provide, or lower the quality of those goods and services.

For the public sectors in the PICs to be sustainable, they must be affordable given the resources available to them, but there are several flexible elements of those resources. A number of PICs now have tax regimes that have been assessed as being appropriately comprehensive in terms of sources of taxation, with fairly typical taxation rates. In a few PICs, there is some room for improvement – particularly with respect to increasing the scope of sources of taxation. A number

of PICs derive a significant amount of revenue from natural resource rents, especially from fisheries license fees but also from royalties on mineral or forestry resources. Optimizing these sources of revenues is obviously an important way of expanding the scope of what is affordable for the public sector. Finally, most PICs derive a significant amount of their resources from development assistance. With a growing recognition among development partners that achieving a sufficient domestic revenue base to fund an adequate level of public services is at best a long term proposition in the PICs, due to their limited prospects for private sector development at least in the near term, PICs have a relatively long term assurance of continued development assistance. But the size of that envelope is obviously not fixed, and if development partners are persuaded that more resources are necessary to fund an adequate level of public services in the PICs, the scope of what is affordable for the public sectors in the PICs could be expanded.[17] Thereafter, any public sector expenditure that incurs a fiscal deficit is only affordable if those deficits are financed by sustainable levels of earnings from sovereign wealth funds or sustainable accruals of debt. These considerations about the semi-flexible nature of affordability need to be kept in mind when references are made to 'given' levels of resources available to the PICs.

What would be the key elements of a refocused agenda on public sectors in the PICs? First, the range and quality of public goods and services being delivered in the PICs should be examined, to assess whether these reflect the key priorities of the countries, given the resources available to their public sectors. Given the challenges of service delivery in such small remote states, the public sectors in the PICs simply will not be able to carry out all of the administrative functions and provide all of the public goods and services that many larger sovereign states do. That makes the choices of what functions and services to undertake – and to what standard – critical. It is particularly important that priority be placed on functions and services that meet core social expectations and that support improvements in living standards – taking in account the feasible economic opportunities of such small remote states – instead of the range of functions and services being determined by imported blueprints of what sovereign states 'normally' do. For instance, given their resource and capacity constraints, it is likely to prove more valuable for public sectors in the PICs to prioritize provision of the infrastructure, regulatory frameworks and business facilitation services that are needed to support the narrow range of economic activities in which they can feasibly be competitive, rather than spreading their resources and capacity too thinly in an attempt to provide such functions and services across-the-board. Inevitably, there will be large gaps in what these public sectors can provide, and it is critical that these gaps are not in functions and services that are essential to the realization of their economic opportunities.

Secondly, given the choices made in the PICs about the range and quality of public goods and services to be provided, the efficiency and effectiveness of this provision should be examined,

[17] In effect, development partners are subsidising the provision of public services in the PICs in order for these to approach an 'adequate' standard, in a similar way to how better-off regions within nation-states typically subsidise the provision of public services in worse-off regions, again in pursuit of some notion of an 'adequate' level of services that should be available to all.

taking into account the challenges of service delivery in specific country contexts. This amounts to a focus on whether the PICs are getting the best out of their public sectors, given the service delivery challenges that arise from having populations that are very small, widely dispersed or territorially divided, and remote from major markets. The outcomes achieved from specific public services could be examined and, where possible, compared with outcomes in similar contexts – though of course, for most PICs there are very few states of similar size with similar degrees of remoteness and dispersion that can serve as meaningful comparators. But even for a single country, the processes of service delivery could be examined to identify scope for efficiency gains, to help enable the PICs to improve the quality of public expenditure and get more from their public sectors. Particularly where models have been imported or designed on the basis of global best practices, there may well be room to improve the efficacy of public sector functions or services by making them more fit-for-purpose in PIC contexts. It is by no means unusual for public sectors in the PICs to be attempting to carry out unnecessarily complicated functions or activities that are unduly onerous relative to available capacity,[18] which is particularly damaging in the context of such small remote states where the challenges of service delivery mean capacity is already severely constrained.

Thirdly, it would be valuable to focus on a further aspect of whether the PICs are getting the best out of their public sectors, by examining whether there is scope for innovative approaches to public administration to improve the range, quality and outcomes of the public functions provided. Some aspects of public functions or services may be able to be provided more efficiently or effectively on a regional or sub-regional basis, for instance, if this enables economies of scale to be realized in their provision. Alternatively, it may be more efficient or effective for PICs to share some aspects of public functions or services with their larger neighbors. Of course, options for pooling functions or services among the PICs and for sharing functions and services between the PICs and their larger neighbors have been canvassed for decades in the region, with considerable progress made on a number of fronts and an extensive agenda explored for potential future progress.[19] What would be valuable, however, would be for this to become an integral part of the agenda of public sector reform considerations in individual PICs, with a view to them taking the initiative to investigate how pooling or sharing services would enable them to get more out of their public sectors and thus make more strategic use of their resources, rather than its remaining a distinct tranche of work pursued at a regional level.

To conclude, we return to the paradox outlined at the start of this paper – of how the public sectors of the PICs can simultaneously be found to be too big and too small. The public sectors of the PICs have typically been regarded as 'too big' because they tend to be larger than those found in other small states and in other states with similar income levels. But as we have seen in this paper, their large size may well be appropriate – or possibly even insufficient – when the

[18] For a discussion of this in the context of public financial management in PICs, see Haque *et al* (2013).
[19] Perhaps the most comprehensive evaluation in the last decade of future areas for regional service provision is that undertaken by the Asian Development Bank and Commonwealth Secretariat (2005).

higher costs of service delivery in very small states or states with high degrees of remoteness and dispersion are taken into account. It is in this respect that the public sectors in the PICs are frequently found to be too small – the inability of public sectors to take advantage of economies of scale in a significant proportion of public functions in such small, remote and dispersed states, means that in numerous areas of public administration and service delivery in the PICs there are insufficient public servants or resources to carry them out adequately. To remedy this, priorities within these states would need to shift such that public resources could be realigned accordingly, efficiency would need to improve, or innovative approaches to service delivery would need to be adopted. In the absence of any scope for these options, the public sector would need to be expanded in order for these administrative functions or public services to be provided to an adequate standard. It is this that frequently comes through in assessments of administrative functions and public services in the PICs – with consequent recommendations for increased staffing and resources in these ostensibly excessively large public sectors.

REFERENCES

Armstrong, H. W. & Read, R. A., 2002. The importance of being unimportant: The political economy of trade and growth in small states. In: S. M. Murshed, ed. *Issues in Positive Political Economy.* London: Routledge, pp. 71-88.

Asian Development Bank and Commonwealth Secretariat, 2005. *Toward a New Pacific Regionalism.* Manila: Asian Development Bank.

Asian Development Bank, 2008. *Transforming Tonga: A Private Sector Assessment.* Manila: Asian Development Bank.

Asian Development Bank, 2009. *ADB Support for Public Sector Reforms in the Pacific.* Manila: Asian Development Bank.

Baker, R., 1992. Scale and Administrative Performance: The Governance of Small States and Microstates. In: R. Baker, ed. *Public Administration in Small and Island States.* West Hartford: Kumarian Press, pp. 5-25.

Baldacchino, G., 2001. Human resource management strategies for small territories: an alternative proposition. *International Journal of Educational Development,* 21(3), pp. 205-215.

Baldacchino, G. & Bertram, G., 2009. The Beak of the Finch: Insights into the Economic Development of Small Economies. *The Round Table,* 98(401), pp. 141-160.

Bertram, G., 1993. Sustainability, Aid, and Material Welfare in Small South Pacific Island Economies, 1900-1990. *World Development,* 21(2), pp. 247-258.

Bish, R. L., 2001. *Local Government Amalgamations: Discredited Nineteenth Century Ideals Alive in the Twenty-First.* Toronto: C. D. Howe Institute, Commentary No. 150.

Bray, M., 1991. The organization and management of ministries of education in small states. *Public Administration and Development,* 11(1), pp. 67-78.

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

Brock, C., 1988. Education and national scale: the world of small states. *Prospects,* XVIII(3), pp. 303-314.

Brown, D. R., 2010. Institutional Development in Small States: Evidence from the Commonwealth Caribbean. *Halduskultuur – Administrative Culture,* 11(1), pp. 44-65.

Carrizosa, M., 2007. Public Sectors in the Americas: How big are they?. *en breve*, No. 108 July.

Center for International Earth Science Information Network, et al., 2011. *Global Rural-Urban Mapping Project Version 1 (GRUMPv1): Settlement Points. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC).* [Online]
Available at: http://sedac.ciesin.columbia.edu/data/set/grump-v1-settlement-points
[Accessed 6 May 2014].

CEPII, 2005. *GeoDist.* [Online]
Available at: http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=6
[Accessed 1 July 2012].

Cox, M. et al., 2007. *The Unfinished State: Drivers of Change in Vanuatu.* [Online]
Available at: http://www.ausaid.gov.au/Publications/Pages/5886_7826_215_4825_8415.aspx
[Accessed 20 August 2013].

Duncan, R., Cuthbertson, S. & Bosworth, M., 1999. *Pursuing Economic Reform in the Pacific.* Manila: Asian Development Bank.

Duncan, R. & Gilling, J., 2005. *Pacific Island Countries: Analytical Report for the White Paper on Australia's Aid Program.* Canberra: Australian Agency for International Development.

Encontre, P., 1999. The vulnerability and resilience of small island developing states in the context of globalization. *Natural Resources Forum,* 23(3), pp. 261-270.

Farrugia, C., 1993. The Special Working Environment of Senior Administrators in Small States. *World Development,* 21(2), pp. 221-226.

Gretchen, K., 2003. Managing the Impersonal in a Personalized Public Service. *Public Administration and Development,* 23(2), pp. 197-209.

Grynberg, R., 2001. Trade policy implications for small vulnerable states of the global trade regime shift. In: D. Peretz, R. Faruqi & E. J. Kisanga, eds. *Small states in the global economy: Background papers presented to the Commonwealth Secretariat/World Bank Joint Task Force on Small States.* London: Commonwealth Secretariat, pp. 267-328.

Haque, T. et al., 2013. *Pacific Islands - PFM design under capacity constraints: Planning public financial management reforms in Pacific Island countries.* Washington, D.C.: World Bank.

Haque, T. & Packard, T., 2014. *Well-being from work in the Pacific island countries.* Washington, D.C.: World Bank Group.

Lowenthal, D., 1987. Social Features. In: C. Clarke & T. Payne, eds. *Politics, Security and Development in Small States.* London: Allen & Unwin, pp. 26-49.

Medina Cas, S. & Ota, R., 2008. *Big Government, High Debt, and Fiscal Adjustment in Small States.* Washington, D.C.: International Monetary Fund, Working Paper WP/08/39.

Sarapuu, 2010. Comparative Analysis of State Administrations: The Size of State as an Independent Variable. *Halduskultuur – Administrative Culture,* 11(1), pp. 30-43.

Srinivasan, T., 1986. The Costs and Benefits of Being a Small, Remote, Island, Landlocked, or Ministate Economy. *World Bank Research Observer,* 1(2), pp. 205-218.

Streeten, P., 1993. The Special Problems of Small Countries. *World Development,* 21(2), pp. 197-202.

UNESCAP, 2007. *Improving Employment Opportunities in Pacific Island Developing Countries.* Bangkok: United Nations Economic and Social Commission for Asia and the Pacific.

University of British Columbia & Pew Environment Group, 2014. *Sea Around Us Project.* [Online]
Available at: http://www.seaaroundus.org/eez/
[Accessed 9 May 2014].

Winters, L. A. & Martins, P. M., 2004. When comparative advantage is not enough: business costs in small remote economies. *World Trade Review,* 3(3), pp. 347-383.

World Bank (Pacific Department), 2011. *Discussion Note: Pacific Futures.* [Online]
Available at: http://devpolicy.anu.edu.au/pdf/2012/Discussion_Note_Pacific_Futures.pdf
[Accessed 20 August 2013].

World Bank, 2005. *Regional Engagement Framework FY2006-2009 for Pacific Islands.* Washington, D.C.: World Bank.

World Bank, 2011. *Discussion Note: Pacific Futures.* [Online]
Available at: http://devpolicy.anu.edu.au/pdf/2012/Discussion_Note_Pacific_Futures.pdf
[Accessed 20 August 2013].

Yang, Y. et al., 2011. *Monetary Policy Transmission Mechanisms in Pacific Island Countries.* IMF Working Paper WP/11/96 ed. Washington, D.C.: International Monetary Fund.

ANNEX 1: CONSTRUCTION OF THE REMOTENESS AND DISPERSION INDEX

The remoteness and dispersion index is constructed from two components, each of which is equally weighted in the aggregation to form the index.

Component 1: Remoteness

The basis of this remoteness component is the GDP-weighted distance from markets for each country. To convert the GDP-weighted distance from markets into a component for the index, the difference between the natural logarithm of it and that of least GDP-weighted distance in the global sample (that of the Netherlands, at 5,106) is taken, and is scaled by the difference between the natural logarithms of the greatest and least GDP-weighted distances in the global sample it (the greatest being that of New Zealand, at 14,554), as follows:

$$Remoteness\ component_j = \frac{ln(Distance_j) - ln(Distance_{global\ min})}{ln(Distance_{global\ max}) - ln(Distance_{global\ min})}$$

Component 2: Dispersion

The basis of this geographic dispersion component is the estimated EEZ of each country. To convert the EEZ into a component for the index, the difference between the natural logarithm of it and that of the smallest EEZ in the sample (that of St Kitts and Nevis, at 10,201km^2), is scaled by the difference between the natural logarithms of the largest and smallest EEZs in the sample (the largest being that of Kiribati, at 3,437,345km^2), as follows:

$$Spatial\ dispersion\ component_j = \frac{ln(EEZ_j) - ln(EEZ_{min})}{ln(EEZ_{max}) - ln(EEZ_{min})}$$

Index of Remoteness and Dispersion

The two components and the resultant index for each country in the set are shown in Table 3. The closer the index is to zero, the smaller is the degree of remoteness and dispersion of that country; the closer the index is to one, the greater is the degree of remoteness and dispersion.

Table 3: Components of the Remoteness and Dispersion Index for Pacific, Caribbean and Other

	Average GDP-Weighted Distance from Markets[1]	Remoteness Index Component	Estimated EEZ (sq km)[2]	Dispersion Index Component	Remoteness and Dispersion Index
Pacific (Average)	*12,035*	*0.82*	*1,428,143*	*0.79*	*0.80*
Fiji	12,964	0.89	1,281,122	0.83	0.86
Kiribati	11,531	0.78	3,437,345	1.00	0.89
Marshall Islands	11,090	0.74	1,992,232	0.91	0.82
Micronesia, Federated States	10,987	0.73	2,992,597	0.98	0.85
Palau	10,600	0.70	604,289	0.70	0.70
Samoa	12,627	0.86	131,812	0.44	0.65
Solomon Islands	12,215	0.83	1,597,492	0.87	0.85
Tonga	13,181	0.91	664,853	0.72	0.81
Tuvalu	12,279	0.84	751,797	0.74	0.79
Vanuatu	12,879	0.88	827,891	0.76	0.82
Caribbean (Average)	*7,915*	*0.42*	*130,012*	*0.28*	*0.35*
Antigua and Barbuda	7,788	0.40	107,914	0.41	0.40
Bahamas, The	7,499	0.37	629,293	0.71	0.54
Barbados	8,057	0.44	186,107	0.50	0.47
Dominica	7,920	0.42	28,626	0.18	0.30
Grenada	8,175	0.45	26,158	0.16	0.31
St. Kitts and Nevis	7,791	0.40	10,201	0.00	0.20
St. Lucia	8,011	0.43	15,484	0.07	0.25
St. Vincent and the Grenadines	8,078	0.44	36,314	0.22	0.33
Other (Average)	*8,355*	*0.46*	*571,779*	*0.60*	*0.53*
Cape Verde	7,421	0.36	796,840	0.75	0.55
Comoros	9,675	0.61	164,691	0.48	0.54
Maldives	9,366	0.58	916,189	0.77	0.68
Malta	5,874	0.13	55,556	0.29	0.21
Sao Tome and Principe	8,314	0.47	165,364	0.48	0.47
Seychelles	9,483	0.59	1,332,031	0.84	0.71

Notes & Sources: (1) World Bank staff calculations; (2) Sea Around Us Project.