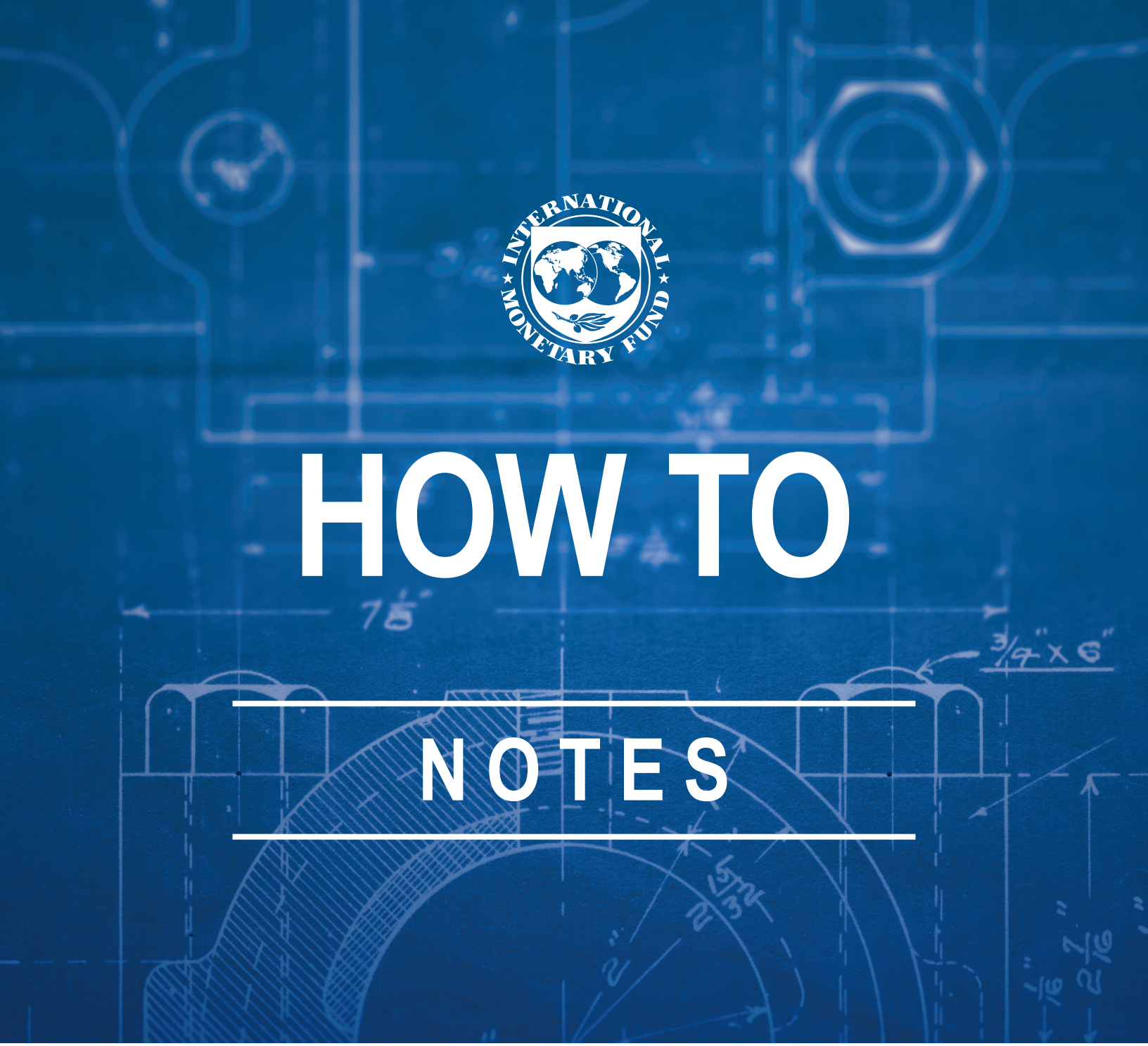

HOW TO

NOTES

How to Manage Government-Sector Remuneration and Staffing in Small States

Nick Carroll, Céline Thévenot, and Sébastien Walker

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How to Manage Government-Sector Remuneration and Staffing in Small States

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How to Manage Government-Sector Remuneration and Staffing in Small States

Nick Carroll, Céline Thévenot, and Sébastien Walker

May 2025

The management of government spending on employee compensation is crucial for small developing states (SDS), where such spending constitutes a large portion of government expenses. These states often face unique challenges, such as disproportionately high government employment levels and the issue of "brain drain"—the latter complicates staffing for skilled positions. This note summarizes the unique challenges these states face, underscoring the importance of tailored strategies for small states in managing government compensation and employment effectively.

Introduction and Main Messages

The management of government spending on the compensation of employees is a particular concern for SDS. Employee compensation accounts for a substantial share of government spending, and its effective management is important for fiscal sustainability and government service delivery (see Gupta and others 2016). Small states' governments tend to spend disproportionately on compensation of employees relative to the size of their economies and employ large shares of their working-age population relative to other countries. Although many general recommendations for managing government employment and compensation also apply to small states, the distinct challenges these countries face call for tailored recommendations. This note's country groupings and terminology are explained in Box 1. The main messages and guiding principles are as follows:

- **Small states face specific challenges**. International comparisons suggest that a minimum amount of staffing is needed to administer a country and provide public services, and therefore that small states' disproportionate government employment and compensation spending levels reflect diseconomies of scale. Small states often grapple with "brain drain," which complicates staffing in government (as well as in the private sector), notably for skilled positions. The narrow base of external revenues that often allow small states to sustain high spending on compensation of employees can also be a source of risks.

- **Small states' challenges call for flexibility to overcome diseconomies of scale and address inefficiencies**. These challenges suggest an even greater need to consider available fiscal space and plan ahead than in other countries. Government compensation should be benchmarked against the domestic private sector, but some flexibility to benchmark against other countries may be necessary in the face of acute "brain drain" or the need to recruit proactively from abroad. The consolidation of functions in the central government can help to mitigate diseconomies of scale, although it implies trade-offs.

- **Small states have used a variety of approaches to address their challenges**. Some small states have chosen to prioritize essential sectors and their personnel. Improved training, migration management, GovTech, and approaches adapted to remote locations have proven useful. Cooperation with regional peers or larger countries has helped support public service delivery in small states without the need for further spending on the compensation of employees.

Box 1. Country Groupings and Terminology

SDS are low-income and emerging market economies with a population of less than 1.5 million (following IMF 2024a). This cutoff means that it covers a wide variety of island states and a few landlocked states. Following previous IMF usage, small high-income countries are excluded from this grouping. Microstates are defined as having populations below 200,000. Annex 1 provides the list of SDS.

For the sake of comparison, we identify a group of countries referred to as "small advanced economies," with countries in the highest income group (according to the IMF World Economic Outlook) and a population below 3 million people, a threshold often considered in the literature on small countries (see, for instance, Jugl 2022), which gives a critical mass for comparisons. Given their size, these countries also face potential diseconomies of scale, but as advanced economies, they may face fewer constraints.

This note may be relevant for jurisdictions beyond small states. Principles in this note may be relevant for many non-state jurisdictions (such as Aruba and Curaçao) and for countries whose population is above the 1.5 million threshold (for example, Lesotho, Namibia, and The Gambia) or are advanced economies (for instance, Cyprus, Iceland, and Malta).

Countries within geographic groupings of SDS may have more in common with one another than with other areas (for example, Caribbean versus Pacific). Remoteness is a feature of many SDS, particularly those in the Pacific (Cabezon, Tumbarello, and Wu 2015). Remoteness refers to the country's overall distance from main overseas markets and the distance of internal markets from main centers. Alongside population density, features of internal and external remoteness may increase the costs associated with public service provision.

Government compensation refers to total wages, salaries, allowances, and any other benefits of government employees. The general terminology follows Thévenot and Walker (2024).

How Is Government Compensation and Employment Different in Small States?

- **Small states face some common challenges**. The two main factors that explain why small states are different are diseconomies of scale in public service delivery (Alesina 1999) and small states' greater openness and volatility (Rodrik 1998; IMF 2024a). Other factors associated with small states include a greater risk of natural disasters and rising sea levels, low population density, high population dispersion, and remoteness. Finally, there are often economic conditions in small states that shape governments, including a lack of agglomeration and narrow economic bases (for example, tourism, fishing, mining, and agriculture).[1] Microstates may be particularly prone to these issues. The set of SDS is often divided into subgroupings that can overlap: tourism-based economies, commodity exporters, and fragile and conflict-affected states (Box 1 and Annex 1).

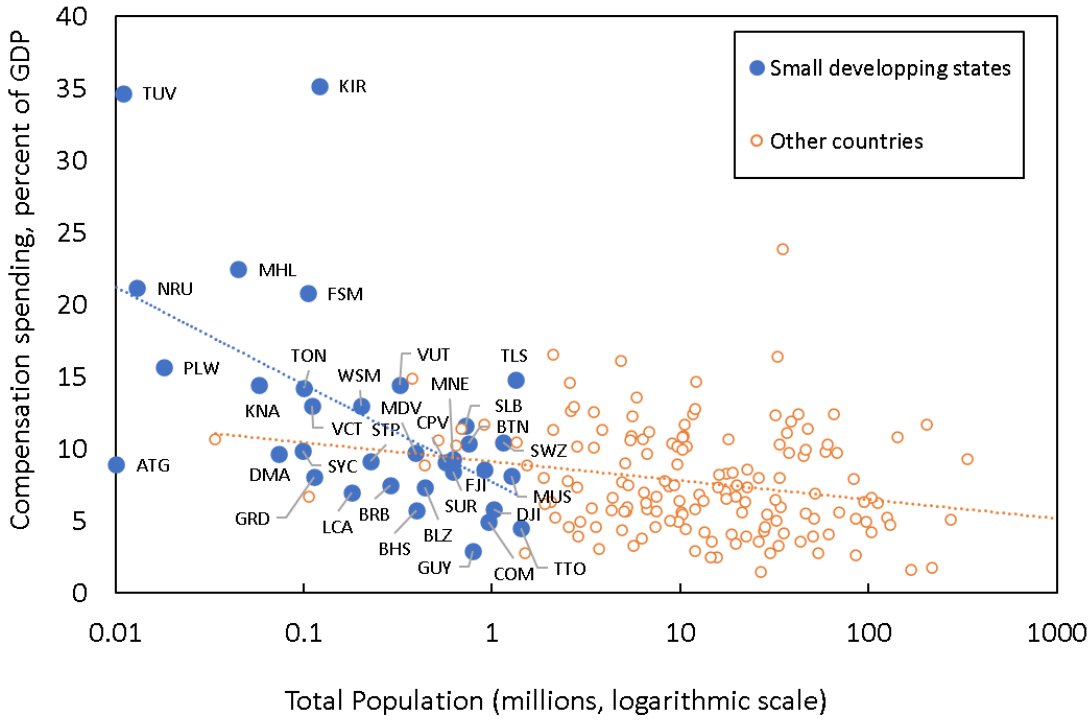
- **Government compensation spending is much higher in microstates and somewhat higher in small states than in other countries**. The assessment of the relative size of government employees' compensation spending can start with the principles set out by IMF (2016): assessing the level of compensation spending relative to GDP and revenue and the level of government employment relative to the working-age population. Total population size has a significant effect on compensation spending as a percentage of GDP even when controlling for other variables such as GDP per capita, remoteness, economic

[1] Most SDS depend on a narrow economic base and on industries such as tourism, agriculture, or commodity exports (IMF 2024). Whereas their GDP per capita growth is similar to other emerging markets and low-income developing countries, SDS experience higher economic volatility, evident during crises such as the COVID-19 pandemic.

characteristics, or region (Annex 2). On average, government compensation spending stands at 12 percent of GDP in small states and 16.5 percent in microstates (Figure 1). This compares with 9.4 percent of GDP for advanced economies (respectively 8.2 in emerging market economies and 6.2 in low-income developing countries, Table 1). There is some heterogeneity because small states with similar populations show very different levels of spending, for instance between states in the Pacific and Caribbean regions.

Figure 1. Total Population and Government Compensation Spending, Latest Value Available

(Percent of GDP)



Source: FAD Government Compensation and Employment Database.

Table 1. Government Employment and Compensation, Selected Indicators, Latest Value Available

(Percent)

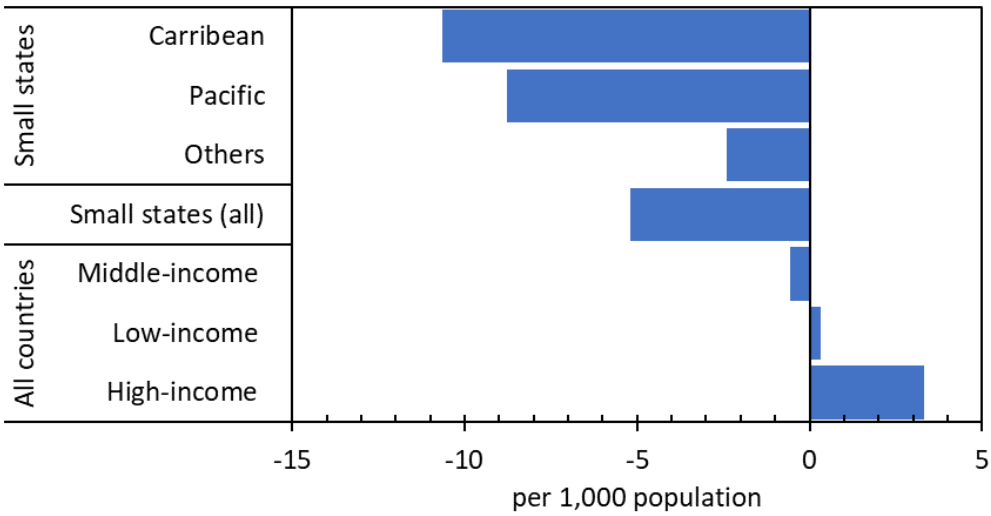
	Government Spending on Compensation of Employees				Government Employment		Compensation Premium	
	Obs.	**As a Share of GDP**	***Obs.***	**As a Share of Public Spending**	***Obs.***	**As a Share of Working-Age Population**	***Obs.***	**In % of Private Sector Compensation**
Small states	*34*	**12.1**	*34*	**28.3**	*20*	**13.5**	*2*	**41.0**
Of which: Microstates	*15*	16.5	*15*	30.4	*7*	18.7	*Palau (2014)*	21.0
Other small states	*19*	8.6	*19*	26.6	*13*	10.7	*Eswatini (2016)*	61.8
Small advanced economies	*10*	10.9	*10*	26.1	*10*	13.9	*7*	12.0
Others (excl. the above)								
Advanced economies	*27*	9.4	*27*	22.6	*24*	12.5	*24*	6.5
Emerging market economies	*66*	8.2	*66*	26.7	*48*	8.9	*36*	14.4
Low-income developing countries	*52*	6.2	*52*	27.0	*32*	4.4	*20*	15.5
All	*189*	**8.7**	*189*	**26.4**	*134*	**9.5**	*80*	**12.3**

Sources: FAD Government compensation and employment database and Government-Private Sector Compensation Premium Data set.
Note: Data as a share of GDP and Government spending refer to 2022 and 2021, respectively, in most cases. Data on government employment refer to the latest data available after 2015. The premium estimates are the latest values available drawn from studies that use comparable regression specifications and estimation techniques.

- **Too small to specialize**. In small states, the government sector is "too small" (in absolute terms) to allow an effective specialization of individuals and organizations. It is, for instance, more difficult to rely on capacity-building activities requiring a critical size, such as specialized trainings, or to afford to hire experts on niche topics that can be critical but insufficient to justify a full-time position (for instance lawyers with specific expertise, economists with expertise in modeling, or doctors with a rare specialization). Some pockets of specialization might exist in the government workforce but without the breadth of expertise necessary for overall effectiveness (Jugl 2022). In addition, some government employees must accumulate roles and multitask, meaning critical tasks might not receive the attention they need.

- **Small states often face challenges from a limited labor pool and "brain drain."** Small states have high outward migration on average, particularly those in the Pacific and Caribbean (Figure 2). For instance, St. Kitts and Nevis has the largest stock of population that has emigrated in the world, with 2.4 nationals living abroad for each person living in the country (Cantu-Bazaldua 2021). The narrower labor pool to recruit from raises particular challenges for recruiting highly skilled or specialized workers who may not be available in the domestic workforce. This issue can be exacerbated by a lack of education or training opportunities within the country, which encourages young people to study abroad and often not return, such as in Palau (Walker and others 2024) or Samoa (Jugl and others 2024). Further "brain drain" pressures can arise from pay differentials in health, education, and other government services with larger countries, such as between Palau and the United States (Walker and others 2024) or between Tonga on the one hand and Australia and New Zealand on the other.

Figure 2. Net Migration Rate, 2019



Source: United Nations Population Prospects.
Note: Net migration rate refers to the number of people entering minus those leaving per year per 1,000 population.

- **There can be a silver lining in small organizations compared with large bureaucracies**. Greater proximity, better communication, and personal relations, which enhance trust and organizational commitment, can also arise (Jugl 2019). Greater homogeneity and a sense of vulnerability enhance cohesion, which helps the sense of common purpose. However, these same initial conditions can also give rise to adverse effects, such as patronage, cronyism, and inefficiencies (Jugl and others 2024).

- **Small states, large bills**. There are some unavoidable government positions, regardless of the size of the country, or positions, that are made necessary, for instance, by geographical conditions, which can require a minimum necessary level of government employment that is disproportionately high compared with larger countries. Because small states are often island states, they may need full-time positions to serve a very small number of people on remote islands. As a result, small states face larger challenges to reach the efficiency frontier for given categories of spending. Figure 3 shows efficiency frontiers for health and education, respectively, displaying health expenditure per capita with healthy life expectancy and teacher–student ratios with net enrollment (in secondary education). Some small states lie far from the frontiers, with a few exceptions that are discussed in the following passages.

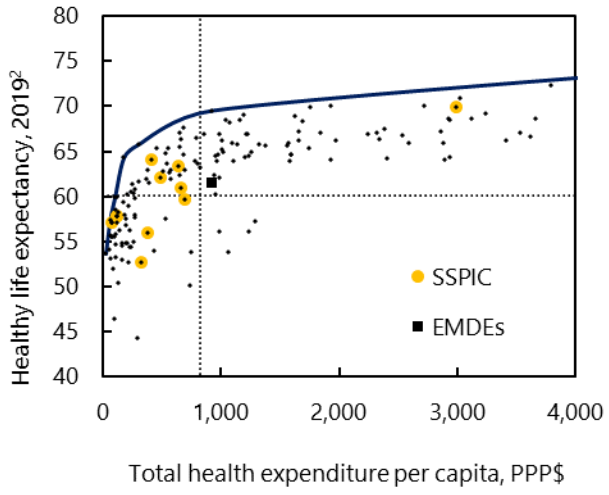
- **Small states' relatively high spending on compensation of employees is funded by substantial revenues from abroad in many cases, which is also a source of risks**. Small states are often able to sustain the relatively high compensation spending-to-GDP ratios they need thanks to budgetary grants and other revenues from abroad. This is notably the case for the Federated States of Micronesia, the Marshall Islands, and Palau, which, respectively, spend 21 percent, 22 percent, and 18 percent of GDP on compensation of employees and receive substantial grants under the Compact of Free Association with the United States (discussed further in Box 2). Nauru spent about 21 percent of its GDP on compensation of employees in fiscal year 2022, thanks notably to substantial revenues from grants, fishing license fees, and revenues related to its Regional Processing Centre.[2] Tourism or commodities are other important sources of revenue for many government budgets in small states (IMF 2024a). These foreign sources of revenue are

[2] This Regional Processing Centre was established in Nauru by Australia to process asylum seekers' international protection claims (IMF 2023a).

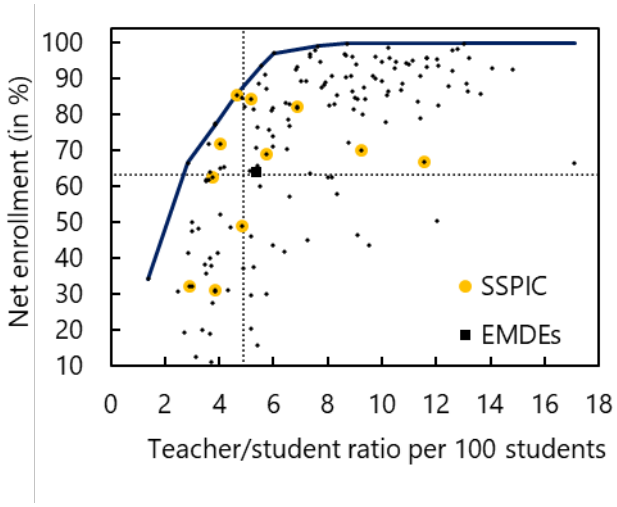
essential to small states, but they can be highly volatile, which makes flexibility in managing the compensation of employees essential.

Figure 3. Health and Education Efficiency Frontiers

1. Health Efficiency Frontier, Latest Value Available[1]



2. Teachers and Outcome, Secondary education, Latest Value Available[1]



Source: IMF FAD Expenditure Assessment Tool drawing on data from the World Bank and World Health Organization.
Note: EMDEs = Emerging market and developing economies; SSPIC = Small States and Pacific Island Countries.
[1] Dotted lines represent the average of SSPIC.
[2] Healthy life expectancy applies disability weights to health states to compute the number of years of life expected to be lived in full health.

How to Take into Account the Circumstances of Small States in Government Compensation and Employment Management

Managing Government Compensation with Macroeconomic and Fiscal Volatility

Higher levels of government compensation spending in small states call for heightened scrutiny. Despite the importance of ensuring its fiscal sustainability, large increases in compensation spending and employment have frequently occurred in small states. Given this, it is even more important that small states have approaches that ensure compensation increases are forward-looking and consistent with maintaining a stable compensation spending-to-GDP ratio (see, for example, IMF [2016] for Grenada). The following recommendations list options that policymakers can consider when dealing with compensation spending challenges. They involve important trade-offs that must be assessed in a country-specific context.

Tools to address compensation spending to make it more fiscally sustainable in small states are often similar to those deployed generally across all states. Small states, like others, have options to constrain government compensation spending, including hiring freezes, limits on pay growth, or reviews of spending. In *Eswatini*, IMF (2020b) recommended right-sizing public employment through sectoral spending reviews. Mitchell, James, and Wickham (2019) provide a comprehensive review of government compensation reforms in the Caribbean in the 2000s that aimed to control compensation spending. They note that although sound in theory, some of these reforms resulted in higher compensation spending (for example, from the use of single salary grids).

Proposals to reduce government compensation spending should be particularly cautious about major short-term changes that may reverse. Reductions in employment to respond to short-term macroeconomic shocks, followed by later hiring, risk undermining long-term state capacity-building efforts. Assessments of government compensation spending's fiscal sustainability should take a longer-term focus on sustainability to avoid policy reversals because of greater GDP and revenue volatility. Ideally, government compensation and employment policy should look through short-term shocks and the economic cycle and be based on long-term affordability. For instance, a negative economic shock could result in the short-term retrenchment of skilled staff who may be lost to emigration or other industries. However, well-communicated temporary pay restraint, or reductions in employment in areas that are easier to rebuild, may result in fewer long-term consequences. A risk is that a negative shock might result in expanding government employment to act as a social safety net. However, such employment often proves hard to reverse in the future, causing an increase in compensation spending for a long time while creating shortages in the private sector during the recovery.

Small states need flexible yet robust frameworks to adapt government compensation and employment to conditions because they are vulnerable to economic shocks and natural disasters. Improving governance, transparency, and data should be part of the reform package to improve flexibility. However, Mitchell, James, and Wickham (2019) highlight that, in Caribbean small states, constitutional, legislative, and institutional policies reduce the ability of governments to adapt to settings, and reform is required to increase flexibility to manage government compensation spending. For example, the provisions in the Eastern Caribbean Currency Union Constitutions make it difficult for member governments to reduce compensation spending by lowering the remuneration (including allowances and increments) of public servants. Blackman and others (2023) highlight that there is scope to improve governance and transparency in spending in some small Pacific states. An example of good practice is Vanuatu, where the size of grants to schools is based on the level of education, is proportional to the number of students enrolled, and is published on a dedicated website.

Taking Account of Diseconomies of Scale

Small states can benefit from centralization of government functions. Decentralization may offer benefits for public service provision in larger countries, such as local accountability, a better understanding of local needs, and possibly greater efficiency by reducing layers of bureaucracy. However, these benefits are more limited for smaller countries while the costs of decentralization are greater. Centralization can alleviate diseconomies of scale in small states. Cyprus, for instance, has centralized all police staff in one institution to avoid layering of several bodies with similar functions. IMF technical assistance to Palau has recommended the consideration of merging some functions exercised by some of Palau's 16 federated states into the national government, such as park policing, road maintenance, trash collection, or vehicle registration (Walker and others 2024). However, in practice, the reasons for decentralization sometimes go beyond economic considerations (for instance, historical reasons), which makes it hard to reverse. Another trade-off to consider is that decentralization in small states limits the risk of power concentration, which sometimes leads to clientelism and patronage (Veenendaal and Corbett 2022).

Regional universities can help small states achieve economies of scale in higher education. Regional universities train small states' inhabitants relatively close to home, while spreading the cost across the countries they serve. The University of the West Indies, initially formed as a medical school, now serves 17 English-speaking countries and territories in the Caribbean with campuses in four countries and one online campus; it is notably financed by the governments of these countries and territories based on their respective student

numbers.[3] The University of the South Pacific is jointly owned and governed by its 12 members, all Pacific Island countries or territories, and has a campus on each of them but is a single university.[4]

Some small states have benefitted from partnerships with larger countries to discharge state functions (Box 2). These partnerships have enabled small states to receive public services, from postal services to consular services abroad and defense, while also reaping the benefits from economies of scale of larger countries and avoiding considerable additional spending on compensation of employees.

Box 2. Free Association and Other Agreements between Countries

Some SDS have benefitted from public services (broadly understood) provided by a partner country thanks to free association agreements. These associations result from free and formal agreements between a small sovereign or self-governing state and a larger country. The Federated States of Micronesia, the Marshall Islands, and Palau have formed a Compact of Free Association with the United States. Under the Compact of Free Association, the United States provides the associated states with defense; services from the US Postal Service, Weather Service, and Federal Aviation Administration, among other agencies; and access to US grants and social services. The Cook Islands and Niue have entered free association agreements with New Zealand, which has responsibility for defense and foreign affairs for both countries and only acts on this responsibility at the request of their governments.

Some small states and small advanced countries have relied on arrangements with partner countries for foreign affairs or defense. Nauru's defense is provided by Australia under an informal agreement. Among advanced small countries, citizens of Liechtenstein can rely on Switzerland's consular services abroad, and upon request, Switzerland can represent Liechtenstein's diplomatic interests where it does not have its own representation; San Marino's defense is provided by Italy.

Sources: CIA World Factbook; Cook Islands: Constitutional Status and International Personality; IMF 2020a; Niue Constitution Act 1974; and Republic of Palau—Compact of Free Association.
Note: The Cook Islands and Niue are not IMF members.

Prioritization and Innovative Solutions with Scarce Resources

Some small states have prioritized the health and education sectors to address the challenges of service delivery in small and remote locations, but this can lead to trade-offs with fiscal sustainability. The Maldives chose to offer higher pay for health workers and employ more health workers to expand the capacity of the health system (World Bank 2023) following a large improvement in GDP and available revenue over recent decades. This led to improvements in access to health services and health outcomes, but there are now challenges around the affordability and efficiency of this spending. Seychelles also prioritized health and education in their public spending in the decades leading up to 2008, resulting in subsequent improvements in health outcomes and educational enrollment. However, as in the Maldives, there have been continued concerns about the efficiency and sustainability of this spending, as well as emerging new challenges (World Bank 2017).

Other small states have looked for innovative solutions to overcome the delivery of health and education given their small size and remote locations. Blackman and others (2023) show that education expenditure in the Pacific SDS tends to be high or very high relative to comparator countries, whereas educational outcomes tend to be below what would be expected across a wide range of measures. The quality of teaching, reading opportunities at home, and basic resources have been identified as challenges in some Pacific states. To overcome these challenges, Micronesia and Tonga have developed tailored and affordable materials and

[3] The University of the West Indies Financial Report for the year ended on July 31, 2020 (https://uwi.edu/finance/sites/finance/files/UWI%20Combined%20Financial%20Report%20and%20Accounts%20July%202020.pdf).

[4] https://www.usp.ac.fj/why-usp/.

training to support schools to support the quality of education in their remote locations. These approaches have shown significant improvements in students' scores.[5]

Tailored Approaches to Overcome Brain Drain Issues

Benchmarking of small states' compensation should carefully consider the relevant comparators because there may be challenges in recruiting and retaining staff for critical positions. Government compensation needs to be competitive with that of the domestic private sector to recruit and retain personnel, for which it should generally be sufficient for government-sector pay to be somewhat below private-sector pay, once education and other individual characteristics are accounted for (Thévenot and Walker 2024). In small states suffering from "brain drain," the government and domestic private sectors alike compete for workers with other countries; therefore, benchmarking government pay against the domestic private sector remains appropriate. However, when competition with other countries is acute enough, it may become necessary also to benchmark government pay against other countries to retain staff and protect particularly critical public services. This could mean paying government employees *more* than comparable domestic private-sector workers for these critical skills and activities (although still less than comparable workers in other countries). Nevertheless, these considerations should be weighed against the risk of crowding out domestic private-sector employment and the higher cost.

Training can be expanded to increase the supply of skilled workers. It may be that many small states need to train additional workers to offset the emigration of essential workers. The training of nurses in the Caribbean has been of particular importance, given high emigration (World Bank 2009). In the 2000s, Guyana, St. Lucia, and St. Vincent and the Grenadines (SVG) all undertook reforms to expand the number of training places and the quality of training. Increasing the number of qualified graduates often needs to go beyond spending allocations and places to improve the quality of training and support for students to complete their studies. Approaches to get destination countries to pay for the training of emigrating nurses have been used in SVG because these can offset the training costs for SVG that may not directly benefit the country.

A successful approach to recruitment and retention looks beyond remuneration to training, migration, and other employment issues (World Bank 2009). Remuneration and job security, career prospects, a good working environment, job satisfaction, family ties, and quality of life are the most common macrolevel factors driving emigration from low-income and developing countries. Caribbean small states considered migration agreements with large destination locations to reduce the outflows of nurses during the 2000s (World Bank 2012).[6] In the United Kingdom, the Department of Health for England introduced a code of practice for international recruitment for National Health Service employers in 2001, banning the "active" (targeted) recruitment by health employers in England of health workers from low-income and emerging market countries (including many Caribbean countries) unless there was an agreement with the government in question, that is, a memorandum of understanding covering health workers (Khonje 2015).[7]

Countries that cannot train enough domestic workers in skilled or specialized fields may proactively need to recruit them from abroad. Such domestic workers may not be available in sufficient numbers or at all in small states, for instance, in those without a university. Palau, whose only higher education institution is a community college, is considering fellowship programs to recruit foreign workers into government service (Walker and

[5] After one year, the share of proficient students increased by about 20 percent both in reading and literacy in Micronesia and average reading scores improved by 0.19 standard deviations in Tonga.

[6] Although these may be effective in the short term in some countries, nurses may switch to markets not covered by migration instruments.

[7] See also Code of practice for the international recruitment of health and social care personnel in England (https://www.gov.uk/government/publications/code-of-practice-for-the-international-recruitment-of-health-and-social-care-personnel/code-of-practice-for-the-international-recruitment-of-health-and-social-care-personnel-in-england).

others 2024). IMF technical assistance has recommended that Palau harmonize employment and compensation policies across domestic and foreign workers to facilitate the recruitment of foreign personnel. Guyana has undertaken active recruitment of Cuban nurses and doctors, while gradually training more national health workers.

Using GovTech Approaches to Overcome Challenges

GovTech approaches can be used to serve populations that are challenging to reach through standard service models (Barron Rodriguez and others 2022; Amaglobeli and others 2023). SDS are on average well connected, although with a great deal of variability depending on the country (Cantu-Bazaldua 2021). In health, in particular, the use of telemedicine and access to electronic medical records can enable access to health services where it may otherwise be challenging. In education, the use of digital technology has a role to play in supporting improved teaching approaches, but it needs to be carefully designed and regulated.

- **GovTech can be used to improve access to health services** (Amaglobeli and others 2023). Although not specific to small states, Bloch and Wang (2023) highlight that telemedicine, access to laptops and tablets, data, and drones have supported access to rural and remote areas in Brazil and sub-Saharan Africa (see Blackman and others [2023] for telemedicine in the Pacific). As a first step in building digital infrastructure, policymakers across sub-Saharan Africa are increasingly investing in biometric identification systems to pave the way for data-heavy interventions (Parekh 2020).
- **Digital technology in education can support improved learning through remote coaching and meetings**. Kotze, Fleisch, and Taylor (2019) tested a virtual teacher training module versus an on-site training and found that they both had similar positive effects, but the virtual training was slightly cheaper and less logistically challenging (Rodriguez-Segura 2021).
- **GovTech can support the access to educational resources**. The Organization for Eastern Caribbean States' digital library provides publicly available resources to all the Organization for Eastern Caribbean States member states and aims to foster lifelong learning (Myers and others 2022).
- **GovTech can be used to improve the integrity of the payroll** (IMF 2024a). Blockchain technology was deployed in Guinea-Bissau to produce a single, more reliable set of compensation data to curb discrepancies and reduce opportunities for corruption through its consistency and interoperability.[8] The ratio of compensation spending to tax revenues declined from 84 percent to 50 percent between 2020 and 2024 (after implementation).
- **Underlying digital infrastructure needs to be in place to deliver connectivity to key providers and end users**. One example of a group of small states working together to invest in underlying digital infrastructure is the Caribbean Regional Communications Infrastructure Program[9] that expanded connectivity to Grenada, St. Lucia, and SVG.

Understanding the Country Context

SDS are a diverse group, and many issues require a detailed understanding of the country context. For example, there is no single cutoff point at which public compensation spending is too high and an assessment depends on (1) the overall level of fiscal sustainability and revenue mobilization in the economy, (2) the particular distribution and approach to public service delivery (for example, between central and local

[8] Although Guinea-Bissau is not defined as a Small Developing State, it shares many of small states' characteristics given its small size (less than 2.5 million people) and level of GDP per capita.

[9] https://www.worldbank.org/en/results/2022/05/11/building-the-caribbean-digital-economy-bit-by-bit.

government), and (3) policy design and objectives. For some small countries, there may be more concerns about a large public sector crowding out the private sector than in others. In addition, inefficiency in public service delivery may be explained by geographic or historical challenges or may be the result of a misallocation of resources (each with their own policy responses). Finally, the level of institutional capacity will influence what reforms may be more feasible or appropriate. The IMF's Fiscal Affairs Department stands ready to support countries in managing government employment and compensation through its capacity development activities to identify compensation and employment measures consistent with efficient service delivery and fiscal sustainability (see https://www.imf.org/external/np/exr/key/pdf/2002186_FAD_CD-Brochure.pdf).

Annex 1. List of Small States and Small Advanced Countries

Annex Table 1.1. List of Small States and Some of Their Characteristics

Region	Income Group	Country	Isocode	Microstate	Population (millions)	Tourism-based	Commodity Exporter	Fragile State
Small Developing States *Low-income and emerging market economies with a population of less than 1.5m*								
Emerging and Developing Asia	Emerging Market Economies	Fiji	FJI		0.917	yes		
		Maldives	MDV		0.397	yes		
		Marshall Islands	MHL	yes	0.045		yes	yes
		Micronesia	FSM	yes	0.095			yes
		Nauru	NRU	yes	0.013			
		Palau	PLW	yes	0.018	yes		
		Samoa	WSM	yes	0.209	yes		
		Tonga	TON	yes	0.1			
		Tuvalu	TUV	yes	0.011		yes	yes
		Vanuatu	VUT		0.334	yes		
	Low-Income Developing Countries	Bhutan	BTN		0.767			
		Kiribati	KIR	yes	0.125		yes	yes
		Solomon Islands	SLB		0.74		yes	
		Timor-Leste	TLS		1.351		yes	yes
Emerging and Developing Europe	Emerging Market Economies	Montenegro, Rep. of	MNE		0.633	yes		
Latin America and the Caribbean	Emerging Market Economies	Antigua and Barbuda	ATG	yes	0.102	yes		
		Bahamas, The	BHS		0.404	yes		
		Barbados	BRB		0.29	yes		
		Belize	BLZ		0.451	yes		
		Dominica	DMA	yes	0.074	yes		
		Grenada	GRD	yes	0.114	yes		
		Guyana	GUY		0.794		yes	
		St. Kitts and Nevis	KNA	yes	0.048	yes		
		St. Lucia	LCA	yes	0.182	yes		
		St. Vincent and the Grenadines	VCT	yes	0.111	yes		
		Suriname	SUR		0.637		yes	
		Trinidad and Tobago	TTO		1.421			
Middle East, North Africa, Afghanistan, and Pakistan	Low-Income Developing Countries	Djibouti	DJI		1.03			
Sub-Sahara Africa	Emerging Market Economies	Cabo Verde	CPV		0.577	yes		
		Eswatini	SWZ		1.163			
		Mauritius	MUS		1.261	yes		
		Seychelles	SYC	yes	0.1	yes		
	Low-Income Developing Countries	Comoros	COM		0.991			yes
		São Tomé and Príncipe	STP		0.232			yes
Small advanced economies *Countries in the highest income group, according to the IMF World Economic Outlook, and a population below 3 million people*								
Advanced Economies		Andorra	AND		0.085			
		Cyprus	CYP		0.921			
		Estonia	EST		1.366			
		Iceland	ISL		0.388			
		Latvia	LVA		1.883			
		Lithuania	LTU		2.883			
		Luxembourg	LUX		0.661			
		Macao SAR	MAC		0.681			
		Malta	MLT		0.542			
		San Marino	SMR		0.034			
		Slovenia	SVN		2.117			

Sources: IMF 2024a and IMF 2024b

Note: Tourism-based countries are those where international tourism arrival receipts exceed 15 percent of GDP and 25 percent of total exports, based on the World Bank's World Development Indicators data. Commodity exporters are SDS that have fuel or nonfuel primary products as the main source of export earnings. Fragile states are classified as per the IMF (FY24 list). Microstates are defined as having populations below 200,000.

Annex 2. Determinants of Government Compensation Spending

We conducted two regression analyses to investigate the relationship between government compensation spending and country characteristics.

The first analysis is a panel regression with random effects estimated through generalized least squares performed on a panel of 189 countries between 1980 and 2022 (5,646 observations). The explanatory variables include population size in logarithmic form and the square of the logarithm of population size. The results confirm that population size has a statistically significant relationship with government compensation spending (Annex Table 2.1), suggesting a negative relationship between population size and government compensation spending. The positive and significant quadratic term indicates that the relationship between log population size and government compensation is nonlinear, implying that at higher levels of population, the negative effect of population size on GDP is reversed, following the conclusions from Jugl (2022).

A cross-sectional regression analysis was performed focusing on the quartile of countries with the smallest populations. The sample covers 41 countries with their latest data on government compensation spending since 2019. The model includes the natural logarithm of population, per capita GDP, and dummy variables for emerging and developing Asia and other characteristics. In this analysis, GDP per capita does not exhibit a statistically significant relationship with government compensation spending, although this may be explained by the small sample size. The interaction between remoteness and the classification of countries as emerging Asian economies is significant, underscoring the specificity of government compensation spending issues in smaller, geographically isolated countries. Alternative regressions including variables to identify fragile states, tourism-based economies, commodity exporters, or locations in the Caribbean region did not stand out significantly.

Annex Table 2.1. Regression Results Explaining Government Compensation Spending as a Share of GDP

	Regression 1	Regression 1 bis	Regression 2	Regression 2 bis[1/]
Method	**Panel Regression, Random Effects**		**Linear Regression**	
Observations	5,646	5,646	41	38
R^2	0.11	0.12	0.67	0.72
Population (log)	−11.7**	−11.3**	−2.0	−3.2**
Population (log)^2	0.4**	0.4**		
GDP per capita (log)	−0.2**	−0.2**	−0.6	
Small state but not microstate		−0.5		
Microstate		0.9		
Small advanced economy		0.6		
Remoteness index				
Fragile state (yes)				
Tourism based (yes)				
Commodity exporter (yes)				7.0*
Emerging and developing Asia				
Latin America and the Caribbean				−6.1*
Emerging and developing Asia and Remote			8.4**	

Sources: Cantu-Bazaldua 2021; FAD Government Compensation and Employment Database; and IMF 2024.
Note: The dependent variable is government spending as a share of GDP; **p < .01; *p < .1.
1/ In Regression 2 bis, variables with statistically insignificant estimates were excluded.

References

Alesina, A., 1999. 10 Too Large and Too Small Governments. *Economic policy and equity*, p.216.

Amaglobeli, D., R. de Mooij, A. Mengistu, M. Moszoro, M. Nose, S. Nunhuck, S. Pattanayak, and others. 2023. "Transforming Public Finance through GovTech." Staff Discussion Notes 2023/004, International Monetary Fund, Washington, DC.

Barron Rodriguez, M., J. Cobo Romani, A. Munoz-Najar, and I. Sanchez Ciarrusta. 2022. *Remote Learning during the Global School Lockdown: Multi-Country Lessons*. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/668741627975171644/Remote-Learning-During-the-Global-School-Lockdown-Multi-Country-Lessons.

Blackman, A., J. Al Rikabi, E. Lacey, L. M. Sondergaard, P. Cahu, M. Ruest Archambault, and M. Dornan. 2023. *Raising Pasifika—Strengthening Government Finances to Enhance Human Capital in the Pacific: A Public Expenditure Review for Nine Pacific Island Countries*. Washington, DC: World Bank.

Bloch, C., and L. X. Wang. 2023. "Digital Interventions in the Health Sector: Country Cases and Policy Discussions." IMF Notes 2023/004, International Monetary Fund, Washington, DC

Cabezon, E., P. Tumbarello, and Y. Wu. 2015. "Strengthening Fiscal Frameworks and Improving the Spending Mix in Small States." IMF Working Paper WP/15/124, International Monetary Fund, Washington, DC.

Cantu-Bazaldua, F. 2021. "Remote But Well Connected? Neighboring But Isolated? The Measurement of Remoteness in the Context of SIDS." https://unctad.org/system/files/official-document/ser-rp-2021d10_en.pdf.

Gupta, S., D. Coady, M. Fouad, R. Hughes., M. Garcia-Escribano, T. Curristine, and M. Soto. 2016. "Managing Government Compensation and Employment—Institutions, Policies, and Reform Challenges." IMF Policy Papers 47, International Monetary Fund, Washington, DC.

International Monetary Fund (IMF). 2016. "Grenada: 2016 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for Grenada." IMF Country Report 2016/133, Washington, DC.

International Monetary Fund (IMF). 2020a. "Cook Islands: Technical Assistance Report—Macroeconomic, Financial, and Structural Policies." IMF Country Report 2020/269, Washington, DC.

International Monetary Fund (IMF). 2020b. "Kingdom of Eswatini: 2019 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for the Kingdom of Eswatini." IMF Country Report 2020/41, Washington, DC.

International Monetary Fund (IMF). 2023a. "Republic of Nauru: 2023 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for the Republic of Nauru." IMF Country Report 2023/376, Washington, DC.

International Monetary Fund (IMF). 2024a. "Staff Guidance Note on the IMF's Engagement with Small Developing States." https://www.imf.org/en/Publications/Policy-Papers/Issues/2024/07/25/2024-Staff-Guidance-Note-On-The-IMFs-Engagement-With-Small-Developing-States-552538.

International Monetary Fund (IMF). 2024b. *World Economic Outlook*: *Policy Pivot, Rising Threats*. Washington, DC, October.

Jugl, M. 2019. Finding the golden mean: Country size and the performance of national bureaucracies. *Journal of Public Administration Research and Theory*, *29*(1), 118-132.

Jugl, M. 2022. *Country Size and Public Administration*. Cambridge: Cambridge University Press.

Jugl, M., W. Veenendaal, J. Corbett, and R. Ng Shiu. 2024. “How Does Population Size Influence Administrative Performance? Evidence from Malta, Samoa, and Suriname.” *Public Policy and Administration*. https://doi.org/10.1177/09520767241238426.

Khonje, W. H., ed. 2015. *Migration and Development: Perspectives from Small States*. The Common Wealth Secretariat. Prepress Projects, London.

Kotze, J., B. Fleisch, and S. Taylor. 2019. “Alternative Forms of Early Grade Instructional Coaching: Emerging Evidence from Field Experiments in South Africa.” *International Journal of Educational Development* 66:203–13.

Liu, C. Y., and M. Garcia-Escribano. 2017. “Expenditure Assessment Tool.” Technical Notes and Manuals No. 2017/006, International Monetary Fund, Washington, DC. https://www.imf.org/en/Publications/TNM/Issues/2017/04/27/Expenditure-Asset-Tools-44797.

Mitchell, A. E. W., R. James, and A. M. Wickham. 2019. “Government Wage Bill Management and Civil Service Reform in the Eastern Caribbean Currency Union.” IMF Working Paper 2019/110, International Monetary Fund, Washington, DC.

Myers, C., N. Wyss, X. Villavicencio Peralta, and C. Coflan. 2022. “Mapping and Analysing Digital Learning Platforms in Latin America and the Caribbean.” Helpdesk Response 47, EdTech Hub. https://doi.org/10.53832/edtechhub.0111.

Parekh, N. 2020. “Digital IDs: The Good, the Bad, and the Unknown.” *J-PAL* (blog), October 6.

Rodriguez-Segura, D. 2022. “EdTech in Developing Countries: A Review of the Evidence.” *The World Bank Research Observer* 37 (2): 171–203.

Rodrik, D. 1998. “Why do more open economies have bigger governments?” *Journal of Political Economy*, *106*(5), 997-1032.

Thévenot, Céline, and Sébastien Walker. 2024. “How to Set Compensation for Government Employees.” IMF How to Note 2024/003, International Monetary Fund, Washington, DC.

Veenendaal, W., and J. Corbett. 2022. “Clientelism in Small States: How Smallness Influences Patron–Client Networks in the Caribbean and the Pacific.” In *Varieties of Clientelism*, edited by E. Aspinall and W. Berenschot, 61–80. Abington: Routledge.

Walker, S., C. Bender, C. Bloch, and C. Thévenot. 2024. “Republic of Palau: Technical Assistance Report-Managing Government Employment and Compensation.” IMF Technical Assistance Report, International Monetary Fund, Washington, DC.

World Bank. 2010. “The Nurse Labor and Education Markets in the English-Speaking CARICOM: Issues and Options for Reform (English).” http://documents.worldbank.org/curated/en/596291468016810712/The-nurse-labor-and-education-markets-in-the-English-speaking-CARICOM-issues-and-options-for-reform.

World Bank. 2012. “Towards a Regional Strategy to Strengthen the Nurse Workforce of the English-speaking CARICOM: International Legal Instruments, Agreements and Obligations” http://documents1.worldbank.org/curated/en/537861468224409915/pdf/622820ESW0P1090C0disclosed020280120.pdf.

World Bank. 2017. “The Republic of Seychelles—Systematic Country Diagnostic.” Report No. 114289-SC, World Bank, Washington, DC.

World Bank. 2023. *Human Capital Review—Unleashing People's Full Potential*. Washington, DC.