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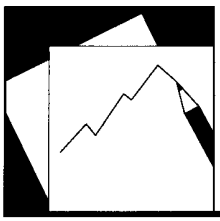

IMF Working Paper

Pacific Island Countries: In Search of a Trade Strategy

Hong Chen, Lanieta Rauqeuqe, Shiu Raj Singh, Yiqun Wu, and Yongzheng Yang

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Asia Pacific Department

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Abstract

International trade is vital for economic prosperity in Pacific island countries, but their trade performance has been weak over the past decade with the exception of resource-rich countries. Small country size and remoteness from global economic centers may have contributed to this relatively poor performance. However, the emergence of Asia as a global economic center presents Pacific island countries with an unprecedented opportunity to develop trade with Asia, particularly in tourism for a number of PICs. Moreover, if a strong two-way linkage is established between tourism and agriculture, Pacific island countries stands a better chance to improve broad-based growth.

JEL Classification Numbers:F6

Keywords: Pacific island countries, trade, tourism, agriculture, inclusive growth

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I. INTRODUCTION

Trade integration is widely considered to be essential for creating economic prosperity in Pacific island countries (PICs).[2] This thinking is not without theoretical or empirical foundations. It is well known that domestic markets in PICs are too small to allow them to exploit economies of scale, a disadvantage that is exacerbated by PICs' geographic remoteness from major global economic centers. Small size and remoteness lead to high costs of production and trading and hence lower price competitiveness of PIC exports. It is thought that through trade integration, producers in PICs can effectively enlarge their markets and reduce production and trading costs. Historically, a number of relatively small developing economies, such as Hong Kong SAR, Mauritius and Singapore, have managed to develop a manufacturing industry that spearheaded their industrialization and enabled them to become relatively wealthy.

Key questions facing PIC policymakers are what industries can spearhead their trade integration with the rest of world and what needs to be done to facilitate this process. Like those economies mentioned above, some PICs, namely Fiji and Samoa, have tried to use manufacturing as a platform for trade integration, but the initial expansion enabled by preferential trade arrangements could not be sustained as preference margins fell over time. In general, PICs have been struggling to find a viable trade strategy to support growth, which seems to have slowed significantly over the past decade. While smallness and remoteness will continue to hamper PICs' trade growth, it is important that PICs continue to search for a more effective trade strategy as the external environment evolves.

This paper focuses on trade in goods and tourism in PICs and explores the potential for tourism to serve as a locomotive for trade integration and inclusive economic growth. The analysis will be placed in the context of the eastward shift of global economic gravity, focusing on emerging Asia as a source of demand for resource-based goods and services, particularly tourism and agricultural products, both directly and indirectly (namely, supply to the local tourism industry). It should be noted from the outset that PICs' traditional markets will remain important for a long time to come and should be further developed for deeper integration beyond trade in goods and nonfactor services. Nevertheless, PICs should increasingly position themselves to tap into Asian markets for long-term benefits.

In what follows, we first discuss PICs' comparative advantage in international trade, a crucial first step in formulating a trade strategy (Section II). We will then examine the performance and patterns of PICs' trade in Section III. Section IV presents the gravity models, estimation methodologies, and data for the analysis of the determinants of PIC merchandise trade and tourism, followed in Section V by discussions of the regression results. Section VI explores PICs' growth potential in tourism in the context of the shifting global economic gravity to Asia, and how a booming tourism industry can also help revive the agricultural sector and support more broad-based growth. Section VII provides a brief summary of key findings and policy implications.

[2] In this paper, PICs comprise the following countries: Fiji, Kiribati, the Marshall Islands, Micronesia, Papua New Guinea, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

II. PICs' COMPARATIVE ADVANTAGE

Over the past three decades there has been considerable debate on the paradigms of PICs' economic integration (and small states in general) with the rest of the world. Bertram and Watters (1985) characterized some of the small PICs as having developed into economies that are highly dependent on migration-remittances and aid-bureaucracy—the MIRAB economies. McElroy (2006) saw the potential of tourism in small island states to provide another model of development—small island tourist economies (SITEs). Baldacchino (2006) extended the characterization of "advantages" of small states to the international political arena, arguing that there are broader strategies that small states can adopt to maximize economic benefits (such as by creating offshore financial centers). Despite these different development perspectives, they are essentially all underpinned by the idea of exploiting comparative advantage accorded to small states by their resource endowments and unique positions in the international system (i.e., being small, often former colonies, and under less scrutiny from international regulatory regimes).

PICs' trade patterns and performances show that they have largely followed their comparative advantage, which is intrinsically linked to their size and remoteness. Evidently, because of PICs' small market size, industries that exhibit strong economies of scale, such as some manufacturing industries (e.g., electronics), face high cost structures in PICs. Remoteness exacerbates this cost disadvantage by making transportation expensive, particularly with increasing fragmentation of production processes that require frequent and timely trade in (and hence transportation of) intermediate products.

With some risk of oversimplification, one can rank broad industry categories in PICs according to the comparative advantage they enjoy. This can be depicted in a "Pacific Pyramid" (Figure 1),[3] with a descending degree of comparative advantage from the base of the pyramid. Where natural resources (minerals, hydrocarbon, fisheries, and forestry) exist, they seem to enjoy the strongest comparative advantage, as can be seen in the importance of mineral and hydrocarbon exports in Papua New Guinea, logs exports in Solomon Islands and tuna exports (via fishing rights) in the Party to the Nauru Agreement (PNA) countries.[4] The commodity boom of the past decade has strengthened this comparative advantage, although the boom may be over with growth slowdown in China and other major emerging market economies.

Many PICs also seem to enjoy strong comparative advantage in tourism, due to their favorable conditions—tropical climate, sandy beaches, pristine water and distinctive cultures. These conditions offer a considerable degree of product differentiation for Pacific tourism. As in merchandise trade, higher transportation (travel) costs because of remoteness and small market sizes offset part of this advantage, but this does not seem to diminish the overall

[3] The Pacific pyramid has been produced largely in accordance with the ratio/relative importance of PICs' major exports (revealed comparative advantage).

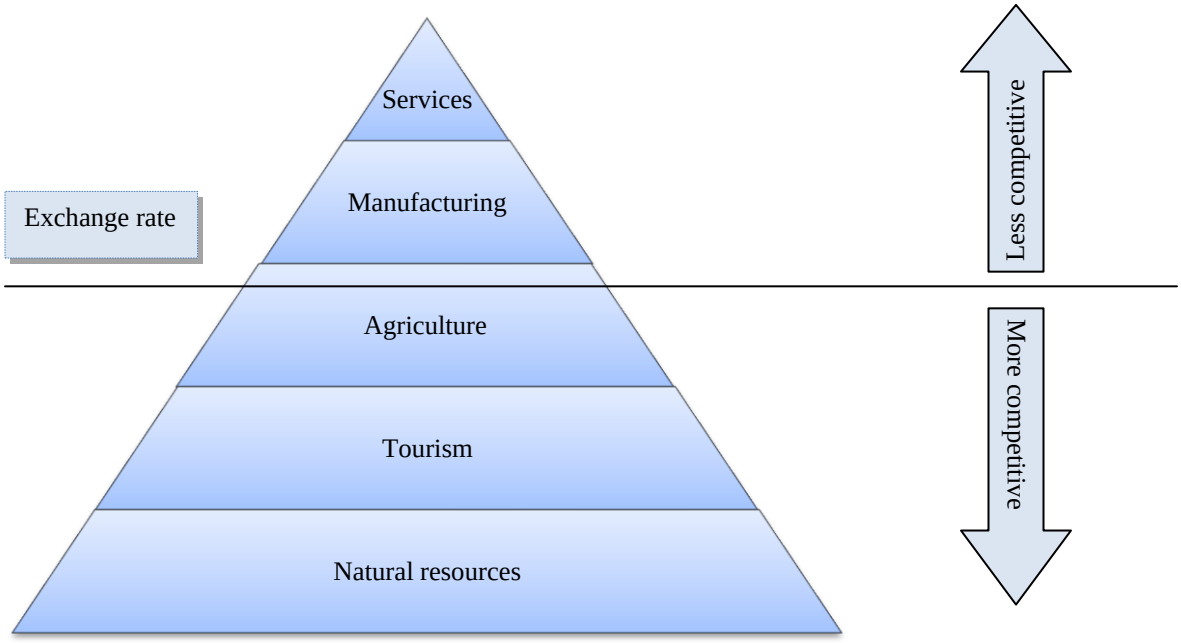
[4] PNA countries include: Kiribati, the Marshall Islands, Micronesia, Nauru, Palau, Papua New Guinea, Solomon Islands, and Tuvalu.

comparative advantage of PIC tourism. In fact, with growing global demand for tourism, PICs' comparative advantage in tourism appears to be strengthening, as evidenced by the quite impressive growth of visitor arrivals over the past decade in a number of countries.

Agriculture seems to rank third in PICs where land and water resources are abundant. The tropical climate conditions in PICs provide some product differentiation from most other countries, both in terms of product variety and supply timing. However, poor technology, inadequate logistical services, and difficulties in accessing customary land have hampered productivity improvement, making PIC agriculture less competitive than it should be. Moreover, relatively high transportation costs as a result of the bulky and perishable nature of agricultural products have weakened this comparative advantage.

The "other services" sector is ranked the lowest in comparative advantage, by virtue of its lower tradability. However, certain industries in this sector produce highly tradable services (back office processing), and with further human resource development and improvement in infrastructure, these industries could become competitive.

Figure 1: Pacific Pyramid of Comparative Advantage



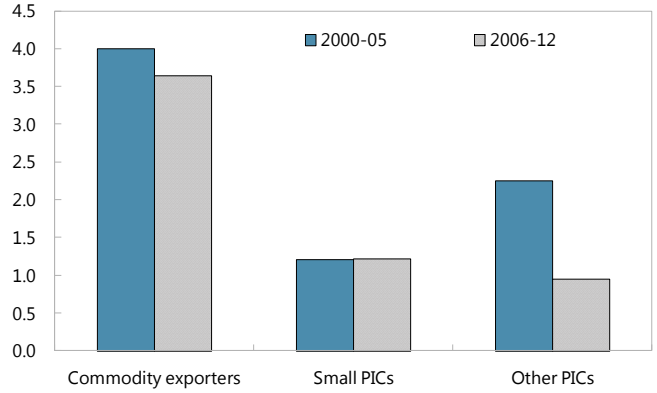
At given technology and productivity levels, the exchange rate determines which industries are able to export and how much they can export. As Winters and Martins (2004) point out, PICs have an absolute disadvantage across industries because of the small size of their economies.[5] This has two implications. First, the real exchange rates of PICs are "high" (that is, domestic goods and services are relatively expensive compared with their foreign

[5] Winters and Martins (2004) show that for both clothing and electronic assembly, micro-economies have cost inflation factors of 36 percent and that for hotel and tourism the factor is 58 percent. The latter is driven substantially by high cost disadvantage estimates for personal travel (and the high share of such travel in overall packages).

counterparts), and hence the range of products that can be exported profitably is reduced. Second, a more depreciated exchange rate can help improve competitiveness by raising export earnings in domestic currency, but this would make economic sense from a national welfare point of view only if intermediate costs at international prices do not exceed the world price of the exported product. In other words, there must be domestic value added derived from the production of the export product at world prices before a depreciated exchange rate can improve the profitability of the exporter and the economic welfare of the exporting country. This phenomenon is not unique to small states such as PICs; it also applies to industries in any country that have very high cost structures. What is probably unique about most PICs is that because of the relatively high levels of aid and remittances that many PICs receive, they can run large trade deficits without the need to increase exports to close the gap, even if this can be done with a more depreciated exchange rate. More depreciated exchange rates may allow these countries to export more goods and services (moving up along the pyramid), but they would mean lower living standards in the short run (as imports become more expensive) before extra income generated through higher exports can compensate for the lost purchasing power. Moreover, if the productivity of the export sector can improve over time with increased volumes of exports, then the impact of more depreciated exchange rates on exports and welfare can also be much larger over time.

At current exchange rates and productivity levels, the cutoff point for profitable exports in many PICs seems to be somewhere in the agricultural sector. This is borne out by the fact that most PICs do export some agricultural products in addition to tourism but hardly any manufactured products, with the exception of Fiji and Samoa. However, the agricultural sector has performed rather poorly in recent years in most PICs (Figure 2). It is not clear whether this has resulted from the real exchange rate appreciation in recent years or lagging productivity. In several PICs, the real effective exchange rate has appreciated significantly over the past decade (Yang and others, 2013).[6] However, it is entirely possible that both factors could be at work, as a strong exchange rate makes agricultural production and exports relatively unprofitable, reducing the incentive to improve productivity. At the same time, natural disasters, crop diseases and lack of public investment could have slowed productivity growth.

Figure 2: Growth of Agriculture in PICs, 2000-12
(Annual average percentage change)



Sources: Country authorities; and IMF staff estimates.

[6] Most of the PICs' exchange rates are pegged to the currencies of their major trading partners. The relatively higher inflation rates in PICs gradually results in the appreciation of their real effective exchange rates.

Except for a few products, the prospects for manufactured exports for PICs are not promising. One can argue that if Mauritius can continue to export textiles and clothing, surely some of the larger PICs such as Fiji and PNG can too given their lower wages. Furthermore, PICs are no more remote from the Australian and New Zealand markets than Mauritius is from the United States and European markets. However, the past success of some small countries in manufacturing needs to be placed in a historical context. It is well known that Mauritius and some other small states were helped by the restrictions imposed by the Multi-Fiber Arrangement (MFA) on other more efficient textile, clothing and footwear (TCF) exporters at the time, notably Japan, Taiwan POC and Hong Kong SAR. Fiji, too, was able to benefit from this in the Australian and US markets, but like many other relatively inefficient producers, as the MFA was phased out and most-favored-nation tariffs fell in Australia and New Zealand, its TCF exports have declined. There has been some recovery of Fiji's TCF over the past few years, mostly in niche products helped by China's diversification away from TCF exports. This points to certain potential for some larger PICs to produce some differentiated TCF products.

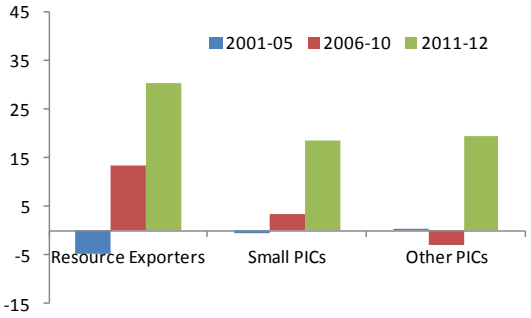
III. TRADE PERFORMANCES AND PATTERNS

Trade-related data for PICs are limited,[7] but existing data suggests that PICs' trade performances and patterns broadly reflect their comparative advantage and the changing international environment. The two resource-rich PICs, Papua New Guinea and the Solomon Islands, have experienced strong export growth in recent years due to commodity booms, while non resource-rich PICs witnessed slow or negative growth until very recently. It is not just small PICs that had poor export performance; the larger ones did even worse and Vanuatu was the only country that experienced decent growth during the period 2001-2010.[8] On the import side, growth has largely mirrored export performance but was more consistent over time among non-resource rich PICs (Figure 4).

[7] There are no export price statistics that are suitable for deflating the nominal values of PIC exports, and given the volatility of commodity prices, it is difficult to calculate exports in real terms. In Figures 3 and 4, PIC exports and imports are deflated using the US import price index and export price index, respectively. U.S. price indices are used given that the trade data used is reported in U.S. dollars. These indices are far from satisfactory for the purpose of deflating PIC trade values as composition of PICs' trade is different from that of the United States.

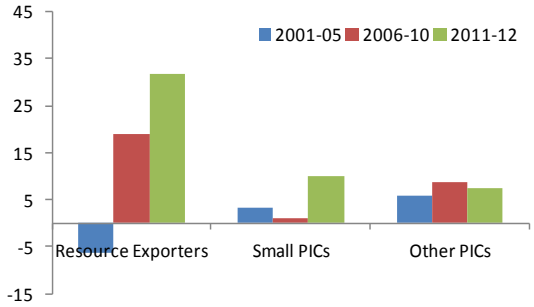
[8] Small PICs include Kiribati, Marshall Islands, Micronesia, Palau and Tuvalu. Other nonresource rich PICs are Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu.

Figure 3: PICs: Real Exports Growth
(In percent)



Source: IMF APDLISC Database and calculations.

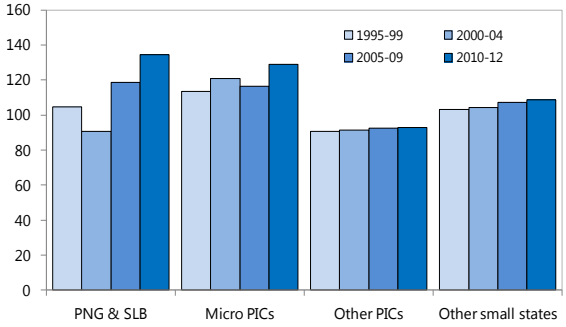
Figure 4: PICs: Real Imports Growth
(In percent)



Source: IMF APDLISC Database and calculations.

PICs have a high degree of trade openness because of their small size as they need to import most products to meet domestic demand. There has been no significant change in openness over time as measured by the trade-to-GDP ratio except for Papua New Guinea and the Solomon Islands, whose openness has been boosted by commodity booms in recent years (Figure 5). Among non-resource exporters, small PICs tend to have higher openness while larger countries exhibit lower openness compared with other small states outside the region.

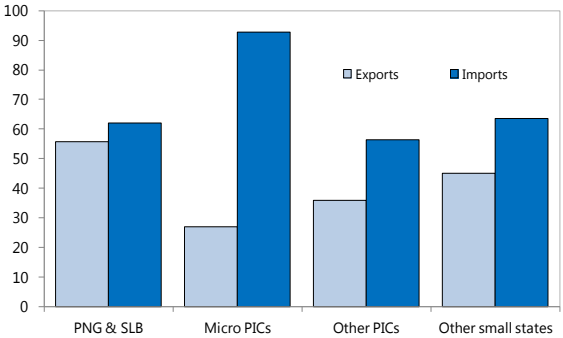
Figure 5: Openness Comparisons, 1995-2012
(Goods and Services Trade - In percent of GDP)



Source: IMF *Direction of Trade Statistics*

However, the high trade openness masks large trade deficits for most PICs, particularly among non-resource exporters. Exports are often a small fraction of imports for small PICs, but even in some larger PICs (e.g., Samoa and Tonga); trade deficits are high and compare unfavorably with small states in other regions (Figure 6). The sources for financing these deficits vary considerably, but in most PICs, aid is a major source, as are remittances. Income from foreign fishing rights is also important, such as Kiribati and Tuvalu.

Figure 6: Trade Balance, Goods and Services, 2003-12
(In percent of GDP)



Source: IMF APDLISC Database and calculations.

PICs' exports are highly concentrated, reflecting their narrow economic base. Approximately two-thirds of PIC exports are primary products, predominantly agricultural products and natural resources (Figure 7). In non-resource rich economies, agriculture alone accounts for over 60 percent of total merchandise exports, and even in resource-rich countries agricultural exports are greater than resource exports.

Manufactured exports are sizeable in non-resource rich countries—reflecting Fiji's dominance in the aggregate, but they are very small in resource-rich countries.[9] On the import side, agriculture (including food) and fuel imports are important, more so in non-resource rich countries where they account for nearly half of total imports, compared to about one-third in resource-rich PICs. It is worth noting that resource-rich countries also import more machinery and equipment as a result of investments in the resource sector.

PICs' export destinations are also quite concentrated and reflect their geographic location. Australia and NZ remain the largest export markets for the two resource-rich PICs, having increased in importance over time and at the expense of Asia, except China, which has rapidly become an important market (Figure 8). For non-resource rich countries, however, the Australian and NZ markets have shrunk significantly over time, as have the North American and European markets. The Chinese market remains miniscule, but the rest of Asia has gained importance and overtaken the traditional markets (Australia, New Zealand, North America and Europe) as the largest export destination after the "rest-of-the-world."[10] The large increase in the importance of the rest-of-the-world market partly reflects growing intraregional trade and market diversification in non-resource rich PICs as a group.

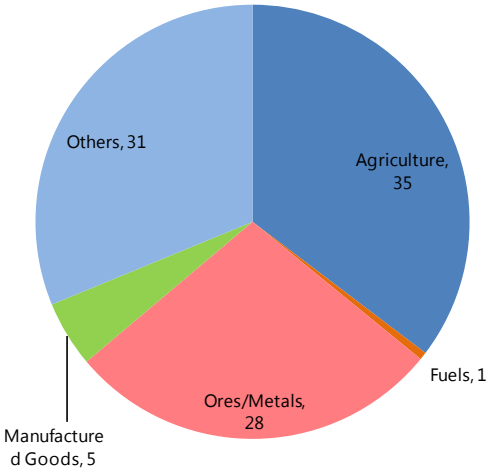
Turning to trade in services, inbound tourism has gained importance over time for several PICs (Figure 9). This has been a bright spot in recent years in PICs' trade integration with the rest of the world. The growth of tourist arrivals has been quite impressive, averaging 6 percent per year since 2000, significantly higher than the growth of goods exports. It is not just Fiji that has done well; other countries have done just as well on average even though many started from a low base. Tourist receipts now make an important contribution to several PIC economies (Figure 10). Australia, New Zealand and the United States account for the bulk of tourist arrivals in most PICs, but the main sources of tourists for Palau have been the Asian economies, notably Japan, Taiwan POC and Korea.

[9] There may be classification issues with regard to the size of manufactured exports. Compared with non-resource countries, the "others" category is very large and may include some manufactured products.

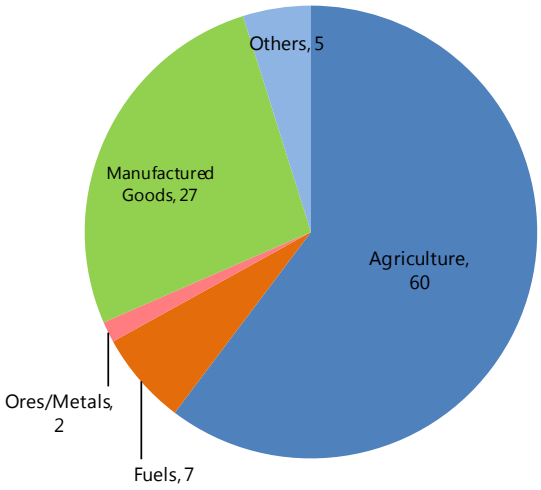
[10] A number of PICs export fish while the larger PICs also export timber and timber products and minerals to the Asian market.

Figure 7. PICs' Trade Composition

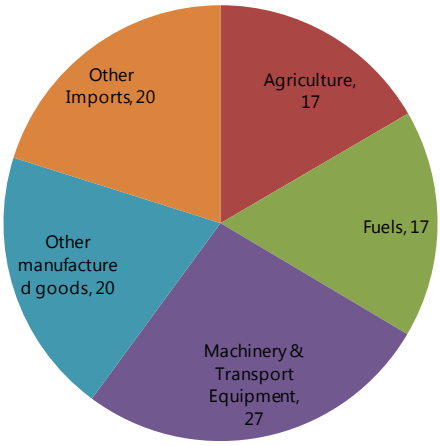
Exports Composition: Resource-Exporting PICs



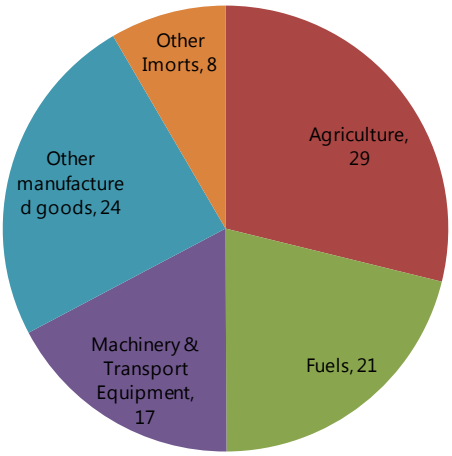
Exports Composition: Other PICs



Imports Composition: Resource-Exporting PICs

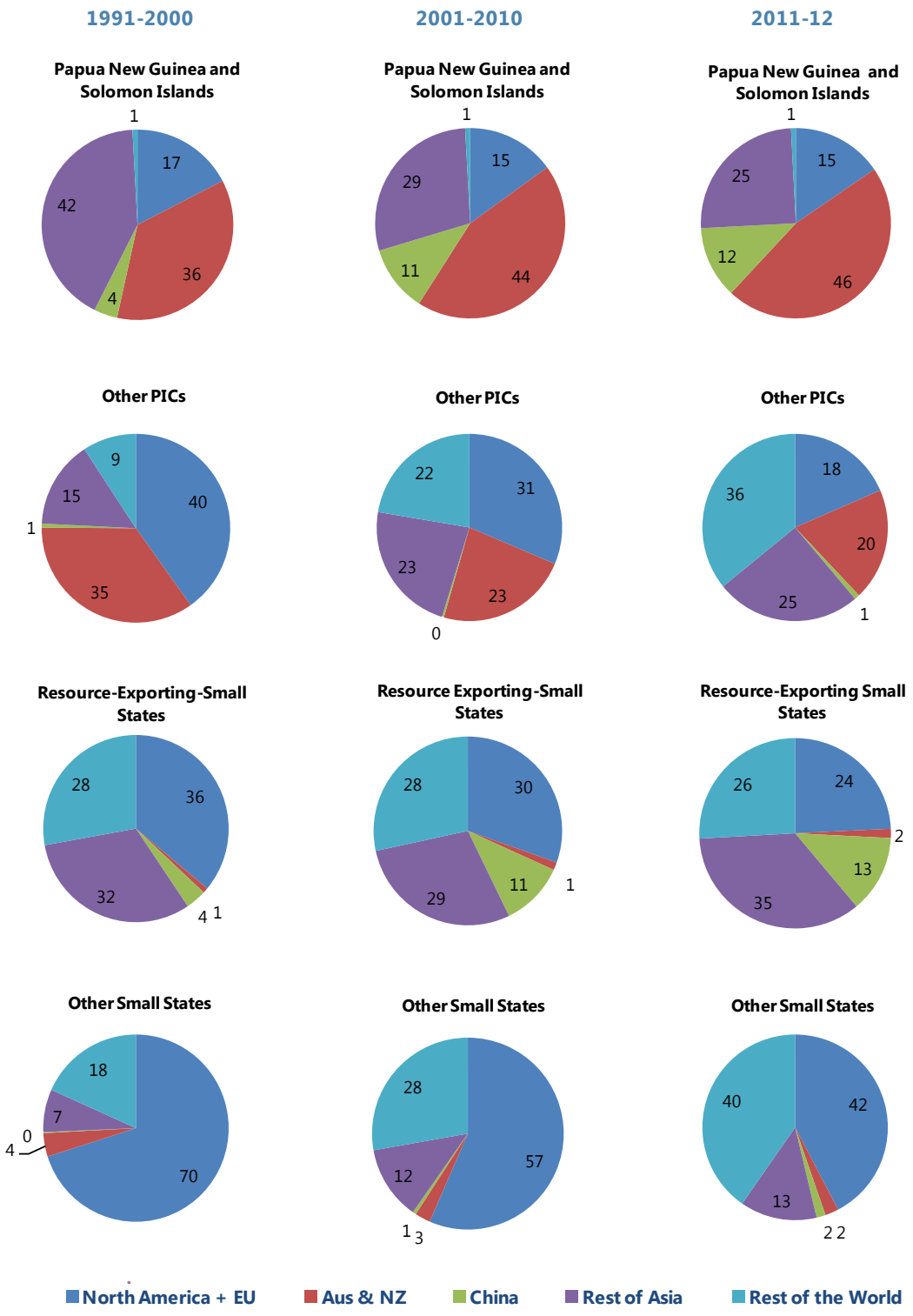


Imports Composition: Other PICs



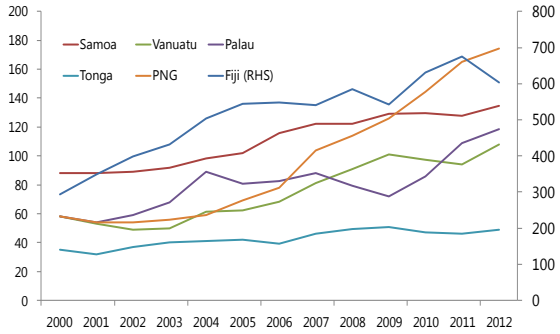
Source: World Integrated Trade Statistics – recent year averages.

Figure 8: Export Destinations



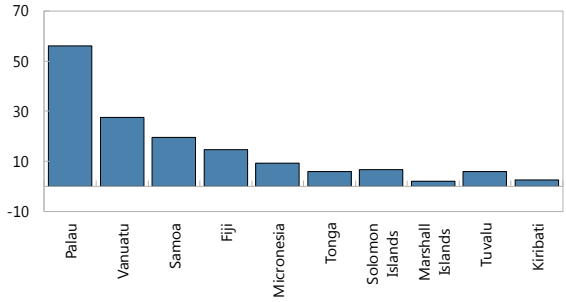
Source: IMF *Direction of Trade Statistics.*

Figure 9: PICs' Annual Visitor Arrivals



Sources: National tourism and statistics authorities.

Figure 10. Pacific Islands Tourism
(In percent of GDP, 2005-11 average)



Sources: Country authorities; and IMF staff calculations.

IV. MODELS, ESTIMATION METHODOLOGIES AND DATA

To examine what drives the growth of PICs' exports of goods and tourism, and the difference in the growth performances of these two sectors, we use one of the most useful empirical approaches to explaining international trade flows, the gravity model. Tinbergen (1962) and Poyhonen (1963) pioneered the notion of explaining trade flows in analogy to Newton's law of gravity, which equates the gravitational attraction of two objects to the product of their masses divided by the square of the distance between them. Hence, the standard gravity model simply takes the trade between two countries as positively related to each economy's GDP and/or population (measure of "mass") and negatively to the distance (measure of "resistance") between countries' 'centers of gravity,' usually capital cities.

Model Specifications

In practice, gravity models often include other variables representing factors that either facilitate or hamper trade between countries, such as preferential trade agreements/regional trading blocs and import tariffs and quotas. Some studies have even included variables such as foreign reserves (reflects successful trade flows from previous years) and the presence of an ethnic minority of one country in another country (Galan et. al, 2002). In principle, to maximize its explanatory power, a gravity model needs to take into account the special factors that affect trade between countries involved. Given this, our generalized gravity econometric model for trade flows (exports and imports, respectively) for PICs is as follows:

$$lnT_{ijt} = \beta_i + \beta_j + \beta_1 \ln Y_{it} + \beta_2 \ln Y_{jt} + \beta_3 \ln D_{ij} + \delta_1 F_{ij} + \delta_2 C_{ij} + \mu_{ijt} \quad (1)$$

where T_{ijt} stands for trade flows of PICs, and we use X to denote exports and M imports; Y_{it} is the GDP of export country i, and Y_{jt} is the GDP of importing country j; D_{ij} is distance between capitals of pairwise trading countries; F_{ij} is a dummy variable indicating if countries i and j are both signatories of the same preferential trade agreement (F_{ij} = 1 if both countries are signatories, and F_{ij} = 0 if they are not); and C_{ij} indicates if countries i and j share colonial ties, with binary values 1 and 0 indicating existence and absence of such ties, respectively. Parameters α_i and α_j are export country's and import country's fixed effects, respectively, δ_1

and δ_2 are the coefficients for variables F_{ij} and C_{ij}, respectively, and μ_{ijt} is the white noise error term.

With regards to export flows, a higher level of PIC GDP indicates higher productive capacity to export, and a higher level of trading partners' income translates into higher import demand. Additional explanations for the inclusion of GDP in equation (1) are that since the presence of economies of scale induces production of differentiated products, volume of trade will be influenced by economic size that is measured by GDP (Helpman and Krugman 1985, 1989; and Deardorff, 1984; cited in Rahman, 2003). Since one country's imports are its trading partners' exports, the GDP variables play similar roles in the imports equation. Hence, β_1 and β_2 are expected to be positive for both exports and imports.

PICs are expected to trade more with countries for which resistance from distance is lower. Rahman (2003) noted that physical shipping costs, time-related costs and costs of (cultural) unfamiliarity are all costs borne in doing business at a distance. Since distance between capitals of pairwise trading countries is a proxy for transportation costs in our gravity model, an increase in distance between countries raises these costs and therefore reduces trade. Thus, β_3 is expected to be negative. The coefficients δ_1 and δ_2 are expected to be positive as trade arrangements and colonial history are taken to facilitate trade between countries. We also considered relative prices[11] in the equation since the link between trade and relative prices is well supported by empirical evidence (Harris and Matyas, 1999). While the estimated coefficients of relative price indices turned out to be negative in our models, the estimates were highly insignificant.

Similar to the model explaining merchandise trade in PICs, an econometric model for tourist arrivals in PICs is developed as follows:

$$lnV_{ijt} = \beta_0 + \beta_1 \ln N_{jt} + \beta_2 \ln YPC_{jt} + \beta_3 \ln D_{ij} + \beta_4 L_{ij} + \beta_5 S_i + \beta_6 U_{it} + \varepsilon_{ijt} \quad (2)$$

where V_{ijt} stands for the number of tourist arrivals in PIC *i* from country *j* in year *t*; N_{jt} is the population of source country *j* in year *t*; Y_{jt} is the GDP per capita of source country *j* in year *t*; D_{ij} is the distance between destination country *i* and source country *j*; L_{ij} is a dummy variable indicating if countries *i* and *j* share a common language (L_{ij} = 1 if the two countries share a common language, and L_{ij} = 0 if they do not); and S_i stands for land surface area of country *i*, and U_{it} is the share of urban population in PIC *i*. β's are the coefficients of corresponding variables, and ε_{ijt} is the white noise error term.

GDP per capita plays a similar role in the tourism model as GDP does in the goods model, and distance acts exactly the same way in both models. The population of source countries is

[11] We also considered the relative price index $RELRER_X^j = RER_X^j \Big/ \sum_{k \neq X} \alpha_k RER_k^j$ where *j* is importer, *X* is exporter, $RER = \frac{CPI_X}{CPI^j} \Big/ \frac{\$_X / \$_{US}}{\$^j / \$_{US}}$, and α_k is share of exports to country *j* from country *k*. The index is designed to capture the effects of competition among PICs which produce similar products, rather than between PICs and their non-PIC trading partners as these partners tend to produce goods and services that often do not compete with those from PICs.

expected to contribute positively to outbound tourism, as is a common language. The surface area of the destination PICs is included to capture the impact of the variety of tourism activities in these PICs—a geographically larger destination equates to greater product variety and attracts higher visitor arrivals. The inclusion of the share of urban population as a proxy for domestic connectivity for tourist travel is based on the consideration that proximity of source countries to tourism destinations may not really matter if harsh geographical conditions or limited infrastructural facilities in the latter hamper tourist activities. Given this, the higher the level of urbanization is, the greater the appeal of these PIC destinations to tourists.

In this analysis, we also tested proxies for relative tourism prices (reciprocal of the purchasing power parity conversion factor),[12] and synergies between tourism and goods trade (sum of annual bilateral trade in goods between the countries divided by both countries' GDP). We also tested the impact of robbery rates as an indicator of travel risk despite the uncertain quality of the source data. Nevertheless, all three variables turned out to be insignificant.

Estimation Methodologies

In selecting estimation methodologies for the econometric exercise, an important issue to consider is the potential endogeneity problem. Specifically, relationships between trade flows/tourism arrivals (*T)* and control factors and the linkage between *T* and PICs' GDP (Y_{it}) may be bidirectional, necessitating the use of an instrumental variables estimator to ensure that estimates are unbiased if endogeneity exists. Hence, equation (1) is estimated with the fixed effects least squares dummy variables estimator (FELSDV)[13] and the two-stage FELSDV estimator (TSFELSDV) to control for potential endogenous effect of PICs' real GDP, for the exports and imports equation models, respectively.[14] Since there is no significant difference between FELSDV and TSFELSDV estimates, the null hypothesis of exogeneity is not rejected, namely, $\ln Y_{it}$ is not endogenous in models explaining PICs' exports and imports. This test leads to the conclusion that the FELSDV estimates are unbiased and consistent.

In equation (2), a destination country's urban population ratio, U_{it}, may be endogenous because development of the tourism industry may in turn speed up the country's urbanization progress. Hence, equation (2) was estimated with two-stage least squares estimator (TSLS) and the FELSDV as well as the ordinary least squares (OLS) estimator. The results indicate that there is no endogeneity problem. No specification errors have been found for the models based on the two equations.

[12] Similar to Narayan (2004) in the case of Fiji.

[13] Also referred to as the two high-dimensional fixed effects estimator.

[14] The null hypothesis of no fixed effects of export countries and import countries is rejected at the 1% level with the *p*-value of zero for *F* critical statistic greater than the observed *F* statistic. This points to the necessary employment of the FELSDV estimator. In TSFELSDV estimation, gross fixed capital formation (investment) is the external instrumental variable to control randomness of $\ln Y_{it}$ in the first stage of estimation, which is found to be a strong instrument as indicted by the Wald test which yields an *F* statistic greater than the threshold value 10.

Data

Classical gravity models generally use cross-section data to estimate trade relationships for a particular time period, for example a year. Nevertheless, estimations using cross-section data observed over several time periods (panel data methodology) often yield more useful information compared to those from cross-section data alone. In fact, panel data methodologies are able to capture the relevant relationships among variables over time and account for unobservable pairwise trading partners' individual effects. Hence, this study employs the panel data methodology using unbalanced data on trade flows and strongly balanced panel data for tourist arrivals, as dictated by data availability.

Data on trade flows covers 6 PICs and their 100 trading partners over the period 1990-2012, and data on tourist arrivals consist of 5 PICs and 9 source countries over the period 2000-2012. These data were sourced from the IMF, World Bank, French Research Centre for International Economics databases and country authorities. Details of the series are summarized in Tables A1-A3 in the appendix.

V. GRAVITY FOR PACIFIC GOODS AND SERVICES: ESTIMATION RESULTS

Looking first at the estimated exports equation, a striking result is the low elasticity of PIC exports with respect to their income (GDP) (Table 1).[15] The estimated coefficient indicates that on average with each percentage increase in the GDP of the exporting country, exports rise only by 0.27 percent.[16] Thus, there is a tendency for export growth to significantly lag output growth in PICs, reflecting an inward orientation of domestic economic activity. The elasticity of PIC exports with respect to importing country GDP is also low but considerably higher than the elasticity with respect to PICs' own GDP. This low elasticity may reflect the fact that PIC exports are primarily commodities such as agricultural products and minerals, which are not luxury goods and are expected to have lower elasticities. Lack of product differentiation or processing could also be associated with low income elasticities of demand. Feenstra and others (2001) found that differentiated product exports have higher income elasticities compared to homogenous product exports. Even with this low elasticity, income growth in importing countries should have helped PICs narrow their trade deficits because in recent years PICs' trading partners have been growing considerably more rapidly than PICs, with PNG and Solomon Islands being exceptions.

Remoteness is a major barrier to PICs' export growth. For each percentage increase in distance to an export market, PICs' exports decline by about 2.3 percent. Take Fiji and Tonga as examples for illustrative purposes. Since Tonga's distance to Australia (3,585km) is 11 percent further than Fiji's (3,224km), the estimated coefficient implies that all else being

[15] Feenstra and others (2001) reported much higher estimates of elasticities for both own GDP and trading partner's GDP across homogenous (OECD) and differentiated goods exports (OPEC to non-OPEC).

[16] Based on FELSDV results. Same below.

equal (that is, even if Tonga had the same income level and its country size was the same as Fiji's, etc.), Tonga's exports to Australia would be 25 percent lower than Fiji's.

Table 1: Estimation Results of the Gravity Model for PICs' Merchandise Exports and Imports

	Dependent: ln(*exports*)		*Dependent:* ln(*imports*)	
Independent variable	FELSDV	TSFELSDV	FELSDV	TSFELSDV
PIC's real GDP, $\ln Y_{it}$	0.27 (2.95)	0.19 (1.62)	0.81 (12.93)	0.91 (11.23)
Trading partners' real GDP, $\ln Y_{jt}$	0.44 (10.78)	0.44 (9.96)	0.28 (9.69)	0.29 (8.92)
Distance, $\ln D_{ij}$	-2.32 (-15.90)	-2.36 (-15.47)	-1.65 (-15.27)	-1.74 (-15.17)
Preferential trade agreement, F_{ij}	0.39 (3.40)	0.35 (2.67)	0.40 (5.67)	0.36 (4.43)
Colonial ties, C_{ij}	1.31 (8.89)	1.28 (7.73)	0.90 (7.73)	0.81 (6.38)
Sample size	3028	2585	4104	3493
Instrumented variable	-	$\ln Y_{it}$	-	$\ln Y_{it}$
External instruments	-	investment	-	investment
F-stat for instruments' significance	-	5554.57	-	5554.57
F (H_0: $\alpha_i = \alpha_j = 0$)	13.15	-	42.38	-
R^2	0.640	0.650	.763	0.768

Note: The dependent variable is real bilateral exports and imports in logs; t-statistics are in brackets.

The regression results also show that preferential trade agreements generally have a positive impact on bilateral trade. However, the results vary across individual agreements, with the Melanesian Spearhead Group Trade Agreement (MSGTA)[17] and the South Pacific Regional Trade and Economic Cooperation Agreement **(**SPARTECA)[18] showing positive effects but Lome/Cotonou/Economic Partnership Agreements (EPAs)[19] having no significant effects. The impact of being a member of a preferential trade agreement on PICs' bilateral trade can be quite large. In the case of MSGTA, for instance, bilateral exports are estimated to be 49 percent higher, while in the case of SPARTECA, bilateral exports are 115 percent higher. It should be noted, however, that bilateral trade among most PICs is mostly very low, so even a large percentage increase in bilateral trade would translate into only a small impact on overall trade.

Additionally, the welfare implications of MSGTA and SPARTECA can be very different despite both having a positive impact on exports. As a nonreciprocal agreement, SPARTECA essentially allows PICs to reap rents generated by tariffs and quotas imposed on imports from non-PICs. Thus, increased exports under SPARTECA are likely to translate into a welfare

[17] A sub-regional free trade agreement which became effective in 1993 and currently comprises Fiji, Kanak and the Socialist National Liberation Front (FLNKS) of New Caledonia, PNG, Solomon Islands and Vanuatu.

[18] Effective in 1981, this agreement provides non-reciprocal duty and quota free entry for PIC goods exports into Australia and NZ.

[19] As part of the African, Caribbean and Pacific (ACP) group, PICs have preferential access to the EU market under the Lomé Convention, its successor Cotonou Agreement and interim EPAs (Fiji and PNG only).

improvement for PICs. On the other hand, MSGTA is a reciprocal agreement, and any increase in bilateral trade is a result of reciprocal tariff reductions among MSG members. It is well known that such agreements can result in trade diversion as well as trade creation. It is also well known that the trade diversion effect is more likely to dominate the trade creation effect in free trade agreements that involve only small trading partners, a point emphasized by Duncan (2008) in the context of Pacific island countries.

Colonial ties also seem to have a positive impact on PICs' exports to their former colonial powers. Other things being equal, a PIC exports 134 percent more, on average, to a former colonial power than to other countries . Such positive impacts on exports reflect the cultural, political and business ties that bind PICs with their former colonial powers. However, it should be noted that the estimated effects of colonial ties are based on historical experience, and it is possible that such effects will diminish over time as trade preferences accorded to former colonies are gradually eroded or phased out.

In the case of PIC merchandise imports, the regression results indicate PICs' high dependence on imports (Table 1). A one percentage increase in PICs' GDP raises their imports by 0.91 percent.[20] In contrast, for each percentage rise in PICs' trading partners' income, PICs' imports increase by only 0.29 percent, reflective of PICs' weak absorptive capacity (including a narrow range of goods that PICs can import) relative to the stronger growth of trading partners' productive capacity and product diversity. Together with results on income elasticities from the merchandise exports equation, these estimates suggest that PICs have a tendency toward a deteriorating merchandise trade balance. That is, as PICs' GDP rises over time, imports tend to grow faster than exports, and non-trade accounts (namely, services, income, and financial accounts) would need to generate a sufficient surplus to maintain the initial balance of payments position.

Distance has been found to have a negative impact on both PICs' imports and their exports. The coefficient for distance, at -1.65, is smaller in absolute terms than that for exports (-2.32). This may be a reflection of the homogeneity and small volumes of PICs exports and its sensitivity to costs related to distance. PIC imports consist of both homogenous and differentiated products that include essential goods such as food that cannot be produced in PICs and fuel that tend to be less sensitive to distance related costs. As in the exports equation, preferential trade agreements and colonial ties have the expected positive impact on imports.

Turning to the tourism equation, the regression results highlight the importance of establishing tourism links with large source countries and increasing destination awareness. For each percentage increase in source country population, tourist arrivals rise by about 0.2 percent (Table 2). This means that, all else equal, as a source country's population grows, only a small fraction of population growth translates into tourist growth in PICs. Given that this result is based on panel data, the low elasticity could also mean that the awareness for PICs as tourist destinations is lower in large countries than in small ones. Such facts, if

[20] Based on FELSDV results. Same below.

persist, could hamper long-term growth of tourism in PICs. On the other hand, distance does have a large negative impact on tourism. For each percentage increase in distance from a destination country, tourist arrivals decline by 1.4-1.7 percent, reflecting distance-induced increases in travel costs. Note, however, the negative impact of distance on tourism is considerably smaller than that on PIC exports.[21]

Table 2: Estimation Results of the Gravity Model for PICs' Tourist Arrivals

Independent variable	*OLS*	*TSLS*
Source country's total population, $\ln N_{jt}$	0.20 (3.41)	0.22 (3.29)
Source country's per capita GDP, $\ln YPC_{jt}$	0.95 (9.86)	0.77 (6.30)
Destination country's urban population ratio, U_{it}	0.08 (20.00)	0.11 (9.87)
Distance, $\ln D_{ij}$	-1.43 (-8.98)	-1.68 (-8.60)
Destination country's surface, $\ln S_{it}$	0.17 (5.83)	0.21 (6.02)
Common language, L_{ij}	1.48 (10.04)	1.60 (9.34)
Sample size	273	273
Instrumented variable	-	U_{it}
External instruments	-	Destination country's per capita GDP
F-stat for instruments' significance		45.62
Hausman F stat (p-value)		16.38 (0.000)
F (H_0: $\alpha_i = \alpha_j = 0$)	-	-
Adjusted/Centered R^2	0.7601	0.6885

Note: The dependent variable is tourist arrivals in logs. t-statistics are in brackets.

The most important force driving tourist arrivals from a particular source country is its income. The results indicate an income elasticity of close to unity with respect to source country income. The estimate indicates that on average, tourism in PICs is not a luxury service.[22] This seems to be consistent with anecdotal evidence that Australian tourists tend to go to North America, Asia and Europe when they have more disposable income, whereas the Pacific is more likely to be regarded as a budget holiday destination. However, it is quite possible that the income elasticity varies across income groups/age cohorts and source countries. Information on such variations can be useful for tourism marketing and should be examined in country-specific research.

The results also indicate that a common language shared with a source country helps boost tourist arrivals. A PIC can expect 148 percent more tourists from a source country that shares its language than from a country that does not. Underlying the role of common languages could also be the familiarity with destinations and hence the availability of information about

[21] The non-linear effect of distance was found to be statistically insignificant.

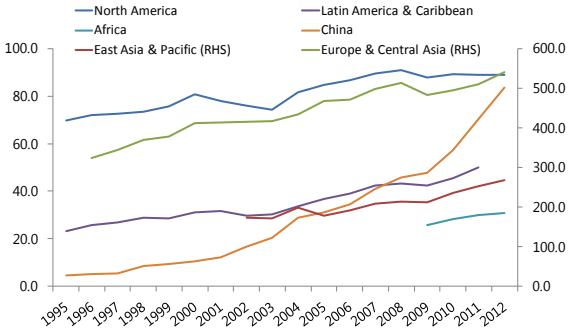
[22] Song and Li (2007) provide an extensive survey of estimated elasticities of demand for tourism. Most estimates surveyed are greater than one. Eilat and Einav (2004) suggest that income elasticities for tourism in high-income countries tend to be higher than those in lower-income countries. Their estimate indicates that the elasticity for high income countries ranges between 1.29 to 1.55, while for lower income countries it ranges between 0.41 and 1.48.

PICs in source country languages could play an important role in attracting tourists. Common language could also capture the impact of diasporas on PICs tourism industry. Alternatively, training tour operators and local tourist guides to speak destination country languages may also help. Larger land surface in destination countries is also found to help attract more tourists, reflecting the higher capacity of larger countries to receive tourists and greater visibility and diversity of these destinations. However, the role of land surface may also reflect the appeal of a greater variety of tourism products and highlights the possibility of the gains of marketing PICs' wider range of tourism products and attractions. Domestic connectivity, as measured by the degree of urbanization, also helps increase tourist arrivals, confirming the importance of general infrastructure for tourism development, although the estimated impact appears to be relatively small.

VI. Taking Advantage of the Shifting Gravity

The gravity model analysis above suggests that tourism in PICs faces more favorable conditions for growth than goods exports. Relatively high demand elasticities with respect to source country income mean that demand for PIC tourism can expand fast over time and the smaller negative impact of distance on tourist arrivals helps moderate the disadvantage of remoteness. The common English language shared with traditional source countries such as Australia and New Zealand will continue to act as a positive factor for tourist arrivals from these countries. Moreover, the wide use of English in PICs also helps minimize language barriers with Asian tourists as English is the most commonly spoken second language in Asia.[23]

Figure 11: International Departures
(In millions of persons)



Sources: World Bank WDI and UNWTO.

However, it is the shifting global economic gravity that is likely to bring the greatest opportunities for tourism in PICs. The landscape for international tourism has changed rapidly over the past two decades as a result of Asia's emergence as a global economic center. Europe and the Americas have traditionally dominated the global tourism market, both as sources of and destinations for international tourism. However, according to UNWTO statistics, while Europe remains the largest source of tourists, the Asia and Pacific region has emerged as the second largest source, overtaking the United States and accounting for 23 percent of global tourist departures in 2012, a 10 percentage point increase from 1990 (Figure 11). China has, in particular, experienced rapid increases in outbound tourism, with nearly 100 million people traveling overseas in 2013, the largest country group in the world. The UNWTO (2013) projects that world tourist arrivals will continue to grow robustly over the next two decades, at 3.3 percent per year and reaching 1.8 billion by 2030. International tourist arrivals in emerging markets are projected to grow twice as fast (4.4 percent) as in advanced

[23] Bolton (2008) discusses the exponential increase in the number of people knowing and speaking English in the Asian region in recent years.

countries (2.2 percent). Although there is no forecast by source country or source region, departures from emerging markets are likely to outpace those from advanced countries, driven both by their higher population and income growth.

Sustained global growth of tourism presents a great opportunity for a number of PICs. Even though PICs tourism products are not luxury services, their demand should rise over time in line with income levels. The emerging markets in Asia could become a major source of tourists in PICs. The Chinese market deserves special attention in this regard, both for its large population and rapid income growth. Since 1995, China's travel departures have increased at an annual rate of 15½ percent per year.[24] It is likely that Chinese tourists will continue to grow at a rapid rate, perhaps at least as fast as China's projected average medium term GDP growth of around 7 percent per year (based on IMF WEO April 2014 forecasts). However, household spending is likely to grow significantly faster than GDP as China rebalances its growth toward greater reliance on consumption, which would also lead to real exchange rate appreciation over time and hence more affordable overseas travel.

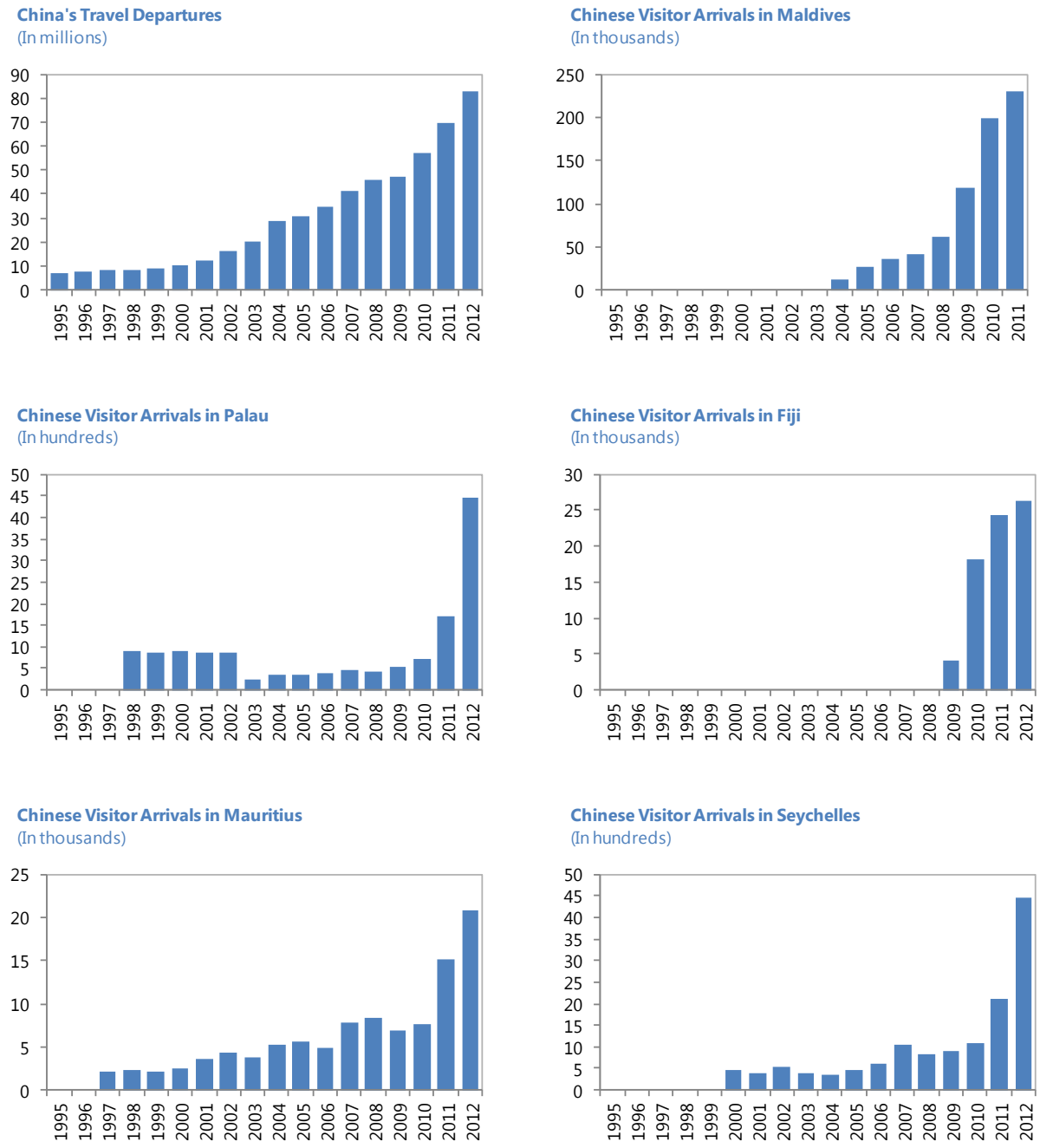
Chinese tourists have come in waves, and these waves appear to have just arrived in the Pacific. The early waves of Chinese tourists tended to concentrate in neighboring countries, particularly those in Northeast and Southeast Asia. Over time, more Chinese tourists have begun to travel to North America and Europe, and the next wave is likely to reach further afield as tourists continue searching for more exotic destinations. Starting from a low basis, Chinese tourist arrivals in the Pacific have surged over the past few years (Figure 12). The challenge for PICs is to sustain this strong growth into the future. In this regard, the Maldives provides a benchmark for PICs as it has managed to attract Chinese tourists at an astonishing growth rate of 53 percent per year since 2005 (Data sourced from Ministry of Tourism, Arts and Culture, Republic of Maldives). By 2012, Chinese tourists reached nearly 230 thousand, accounting for more than a quarter of total arrivals and becoming the largest source group.

PICs will need to create similar conditions for the growth of tourists from China and Asia in general. These conditions include greater awareness of the Pacific through marketing and other forms of information dissemination, more frequent and affordable flights, improvements in tourist infrastructure and services (e.g., hotels and restaurants) and greater variety and quality of tourist products. Obviously, the starting point varies considerably across PICs, and bottlenecks differ from country to country. Smaller and more remote PICs have a lower starting point and face more difficult challenges. A small market makes it difficult to attract frequent and affordable flights, and yet without such flights investment in tourist infrastructure will not be viable, nor will tourist products develop. In such circumstances, an integrated approach to tourism development that involves concerted efforts by the public and private sectors may be warranted. In particular, the government needs to create necessary conditions for domestic and foreign investment, including through facilitating land leases for tourist infrastructure development. There may also be scope for intergovernmental or regional cooperation in overcoming diseconomies of scale, such as joint

[24] Song (2013) forecasts that China's travel departures could reach 345 million by 2020 which implies annual growth of 19½ percent.

marketing. Box 1 provides a brief account of the experience of Mauritius and the Maldives in achieving export-oriented growth, including through the development of tourism.

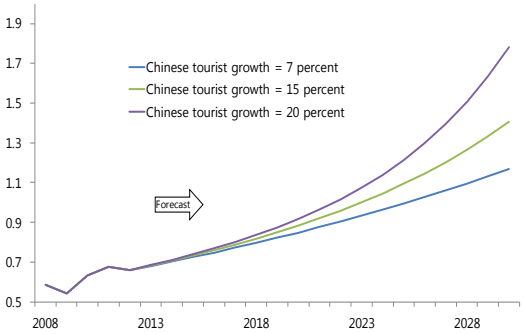
Figure 12. Visitors from China, 1995–2012



Sources: National statistical agencies

Whether or not PICs are able to seize the opportunities arising from the emergence of Asian tourism can make a critical difference to the future of tourism development in the region. Figure 13 provides an illustration of how tourist arrivals in Fiji could evolve with different degrees of success in attracting Chinese tourists. In 2012, Fiji received 26 thousand Chinese tourists, up from just over 4 thousand in 2009. If Chinese tourist arrivals grow at 7 percent per year in the period up to 2030—a scenario that can be regarded as the baseline (business as usual)—and tourists from other destinations grow at the rate of the past decade, then total tourist arrivals in Fiji would be just under 1.2 million by 2030. However, if Fiji can manage to increase Chinese tourists by 15 percent per year, its total tourist arrivals could reach over 1.4 million by 2030. At a 20 percent growth rate of Chinese tourist arrivals, total tourist arrivals in Fiji could reach 1.8 million by 2030. Based on industry estimates for average tourist spending of about U.S. $120 per day, a retention rate of about 44 percent and average length of stay of about 7 days, each tourist produces retained earnings of about U.S. $370. A 20 percent growth in Chinese tourists compared with 7 percent growth will result in higher annual earnings of about U.S. $220 million a year by 2030, equivalent to more than 2 percent of 2013 GDP.

Figure 13: Projections of Chinese Visitor Arrivals in Fiji
(In millions)



Sources: Fiji Bureau of Statistics; and authors' projections.

Rapid tourism growth, as illustrated above, could provide a significant boost to agricultural production in some of the PICs, especially if these PICs can exploit synergies between tourism and agriculture. The benefits of such synergies have long been recognized among these PICs, but progress in realizing these benefits have been slow. This linkage is particularly important for small states such as PICs, as potential agricultural exporters face high transportation costs in selling their products to overseas markets, and tropical produce often faces more stringent sanitary and phytosanitary (SPS) restrictions. The onerous sanitary and phytosanitary requirements have significantly retrained the expansion of agricultural export bases. By supplying to the domestic tourism industry, agricultural producers would be able to avoid the disadvantages arising from distance and SPS restrictions. In fact, if domestic producers are located close to tourism sites, they would also be able to save a significant portion of domestic transportation costs, which are often significant.

The linkage between tourism and agriculture is important because it not only offers a way to reduce export costs and barriers, but also serves as a critical strategy for inclusive growth. Despite weak performance over the past decade, agriculture is still by far the largest sector of most PIC economies and provides employment and income for more households than does any other sector. Thus, linking agriculture to tourism can help revive agriculture and broaden the base for economic growth.

While there is little information about the current state of agricultural supply to the tourism industry, anecdotal evidence suggests the potential is significant. A study based on a “Farm

to Table" project by the University of the South Pacific cites an estimate that 70 percent of food for the tourism industry in the Pacific is imported (Gibson, 2013). The overall retention rate for tourist expenditure is about 44 percent in Fiji; that is, for each dollar a tourist spends, 56 cents leaks out of Fiji via spending on imported goods and services, a large portion of which is food and agricultural products. An FAO study (Rogers, 2012) indicates that with the exception of pork, virtually all meats are imported in Tonga and Samoa, and this is particularly the case for upper-end hotels and restaurants because local producers cannot supply these products in required volumes with consistent quality. Similarly, hotels and restaurants often rely on imported vegetables and fruits. While imports of food products are often necessary and help reduce costs given the undiversified production base and climate conditions in PICs, there seems to be considerable scope to supply products suitable for cultivation in PICs' tropical climate. There appears to be a great need to examine what has prevented supply chains from developing to meet local and tourist sector demand.

Once domestic producers can supply local hospitality industries with adequate volumes and consistent quality, local producers will be in a stronger position to export. The larger volumes and higher quality would effectively reduce the cost of agricultural exports and make PICs more competitive in overseas markets, as witnessed in the strong demand for Vanuatu's beef exports. In fact, overseas markets and domestic hospitality markets can be highly complementary. Seasonality of certain vegetables and fruits has been a major issue for local hotels and restaurants, but this is because small production volumes make it economically unviable to develop local storage facilities. Once production volumes increase to a critical mass, it would become more cost-effective to develop such logistics to facilitate exports.

Agricultural development can also help enhance the tourism industry. As the FAO study (Rogers, 2012) points out in the context of Samoa and Tonga, agricultural systems are an integral part of the natural environment that provides the aesthetic context for a tourist destination. Thus, it is important to preserve the essential features of Pacific agricultural systems to ensure ecological sustainability and commercial value for tourism. Greater use of agricultural systems can enhance tourist experiences as well as increase local value added. However, care should be taken in developing tourism infrastructure to protect the agricultural environment. Similarly, agricultural development should minimize pollution and avoid damage to tourist attractions. Organic farming has often been advocated both as a way to produce higher value added products by product differentiation as well as to better preserve the natural environment. This requires a holistic approach to development planning and coordinated efforts between agricultural and tourism authorities.

VII. CONCLUDING REMARKS

Considerable efforts have been made to advance regional trade integration in PICs, but the outcome has been mixed. Large preference margins offered by former colonial powers in earlier years appear to have helped boost certain exports such as sugar, TCF products and auto parts, but as preference margins fall and Australia's auto manufacturing industry declines, exports in PICs have suffered. Meanwhile, weak domestic supply capacity and onerous quarantine requirements in the Australian and New Zealand markets continue to hamper PIC agricultural exports. PICs have increasingly turned to intraregional trade integration as a way to boost export demand, but lack of trade complementarity among PICs

and slow implementation of tariff reductions mean that benefits may be limited or not even exist as a result of trade diversion. Moreover, the likely uneven distribution of trade expansion in favor of larger regional countries may lead to tensions that further slow down intra-regional trade liberalization. This would hamper PICs' interregional integration as they use this as a test ground for the broader Pacific Agreement on Closer Economic Relations (PACER) Plus.[25]

The emergence of Asia as a center of global economic activity further reinforces the rationale for unilateral liberalization in PICs. Australia and New Zealand will remain major sources of imports for PICs for a long time to come, but the rapidly growing importance of Asian imports has increased the chances of trade diversion arising from the PACER Plus agreement. Some of the major benefits for PICs from PACER Plus agreement are likely to be in the area of development assistance to improve PICs' domestic supply capacity, especially in agriculture and tourism, as well as in a scientifically based relaxation of onerous quarantine requirements on Pacific produce. Perhaps the largest benefits lie in an expanded and more institutionalized temporary migration scheme that would allow PICs to export labor services, especially by small PICs that have limited capacity to export goods and services, at least in the short to medium term. All these should be included in the final PACER Plus agreement, but PICs should at the same time pursue unilateral liberalization to avoid trade diversion.

While continuing to expand trade, temporary migration schemes and other forms of economic cooperation with traditional trading partners, PICs should make greater efforts to diversify their trade into Asian markets. Diversification will not be easy, as shown by the limited progress that non-resource rich PICs have made in penetrating the Chinese market. Apart from domestic supply constraints, this is partly because of ever closer trade integration among Asian countries that has enabled Southeast Asian countries to supply increasing quantities of tropical produce to northeast Asian countries. To improve their competitiveness, PICs will have to make significant progress on two fronts. First, they will need to improve agricultural productivity. At the micro level, this would require, among other things, supporting infrastructure and services, such as extension services and efficient marketing arrangements, and land tenure systems that provide secure access to land for productive purposes. At the macro level, countries will need to ensure that their exchange rates are maintained at appropriate levels through prudent macroeconomic policies to keep inflation low and make greater use of aid and remittances for productive investment, thus minimizing the potential Dutch disease effect. Second, PICs should seek a more level playing field in Asian countries by negotiating, perhaps collectively, freer market access and extending existing preferential access in some markets, such as the Chinese market.

Notwithstanding the importance of resource based industries, the prospects for diversification into Asian markets are much more promising in tourism and policies should focus on creating conditions for private businesses to thrive. PICs have a strengthening comparative advantage in tourism despite their remoteness from major global economic centers. With

[25] This trade agreement is designed to broaden PICs' intraregional trade integration to include trade with Australia and New Zealand on a reciprocal basis.

global economic gravity moving eastward, PICs are presented with an unprecedented opportunity to develop their tourism industries. Recent surges in outbound tourists from China and some other Asian countries have already begun to benefit PICs, but this could be just the beginning of a larger and longer boom for tourism if PICs can seize this opportunity. To succeed, PICs must be proactive rather than wait for trickle down effects. Countries will need to attract foreign investment and know-how in building and upgrading their tourism infrastructure. Again, providing secure access to land leases will be important. Regional cooperation in marketing and trade-related infrastructure may be necessary to overcome diseconomies of scale. Meanwhile, governments could help reduce entry barriers for local businesses, particularly small and medium sized enterprises, to enter the tourism market. Governments could also help promote unique Pacific cultures as a tourist attraction, which would benefit local communities.

Strong tourism growth could provide much needed support to agriculture in PICs and policies should actively support the establishment of agriculture-tourism linkages. In the past, some PICs may have experienced competition between agriculture and tourism, particularly in the use of land and labor. Moreover, strong exchange rates that are supported by tourism earnings may have had a negative impact on agricultural production and exports. A tourism boom could put even greater pressure on the agricultural sector if a positive relationship between the two sectors is not established. However, a booming tourism industry could also generate increasing demand for local food and other products, as there are considerable synergies between agriculture and tourism that can be exploited for their mutual benefit. Government policies should encourage initiatives to build supply chains to ensure a consistent supply of food and agricultural products to the tourism industry with consistent quality, and the unique Pacific agricultural systems should be further integrated into local tourism products. Strong growth of both tourism and agriculture would provide a sound basis for inclusive growth.

Box 1. Lessons from Successful Two Small Island States

There is always risk in drawing policy lessons for PICs based on the experience of countries that are outside of the region and do not have the same history and conditions. Nevertheless, given the high demand for such lessons, we attempt to distill a few general conclusions from the literature on economic development in Mauritius and the Maldives. In terms of population size, Mauritius (about 1.3 million) and the Maldives (about 338 thousand) are somewhat larger than a typical PIC. In terms of geography, Mauritius is one of the most remote countries in the world, while the Maldives is less isolated because of its relatively close proximity to India.

It is well known that Mauritius has been very successful in achieving high economic growth and social equity since its independence in 1968 (two years earlier than Fiji). While debate on lessons learned from the Mauritius experience is ongoing, research points to the country's favorable investment environment as a critical factor for success. This environment has been manifested in political and macroeconomic stability, strong institutions, and neutral incentives to the export sector. Subramanian and Roy (2001) emphasized the central role of underlying institutions, in particular, protection against expropriation of property—a point Duncan (2014) has also highlighted for PICs—in ensuring strong growth of the sugar industry and the prosperity of an export processing zone (EPZ). Mauritius successfully used duty exemptions and other policies (such as more flexible labor conditions in the EPZ) to offset the anti-export bias of its restrictive import regime and reduce labor costs. In light of this experience, PICs that still maintain significant import protection may consider reducing it further, but perhaps more importantly, their exchange rates need to be competitive enough for key export industries to be profitable.

While the Maldives is not as successful as Mauritius in terms of overall economic development, its tourism sector has been the envy of many small island states. From a humble beginning in 1972, the tourism industry has grown exponentially and made the Maldives a well-known luxury destination for holidays. The sector now accounts for more than one-third of GDP directly and about three-quarters of the economy both directly and indirectly. The Maldives still faces many challenges that PICs do, such as ensuring sustainable development, reducing the high cost of infrastructure services and increasing local value added, but it offers some useful lessons for small island states that intend to develop their tourism industry.

The Maldives's success in tourism appears to be supported by an integrated approach to tourism development, strategic planning, letting the private sector take the lead with government playing a supporting role (World Bank, 2011; 2006). The Maldives's experience shows that to develop the tourism sector, the government needs to create an investment climate that is underpinned by adequate infrastructure, sound institutions and regulations, private-public partnership, and a non-burdening tax regime. After the initial phase of development, the government provided strategic directions to the industry through successive Tourism Master Plans—four in total since the 1980s. The implementation of the plans are monitored and evaluated to ensure targets set in the plan are met. Local entrepreneurship is encouraged, and good training of local employees, easy imports of skilled labor and intermediate goods from overseas and a relatively simple tax regime have allowed the entrepreneurs to make profits, leading to rapid increases in investment, especially by local entrepreneurs. In many respects, this success story is similar to that of Mauritius, where even a broader range of export-oriented industries has thrived. Marketing has played a major role in the Maldives's supply-driven tourism, but the private sector takes the lead and bears the bulk of marketing cost.

Source: Authors' compilation based on the references cited.

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Appendix: Country List and Data Description

Table A1.

Importers of PICs' Goods over 1992-2012 (100 countries in total)

Algeria	Côte d'Ivoire	Ireland	Netherlands	Solomon Islands
Australia	Denmark	Israel	New Zealand	South Africa
Austria	Dominica	Italy	Nigeria	Spain
Bahrain, Kingdom of	Dominican Republic	Jamaica	Norway	Sri Lanka
Bangladesh	Ecuador	Japan	Oman	Sweden
Barbados	Egypt	Jordan	Pakistan	Switzerland
Belarus	Estonia	Kenya	Panama	Tanzania
Belgium	Fiji	Kiribati	Papua New Guinea	Thailand
Brazil	Finland	Korea, Republic of	Peru	Tonga
Brunei Darussalam	France	Kuwait	Philippines	Trinidad and Tobago
Bulgaria	Gabon	Lao People's Democratic Republic	Poland	Tunisia
Cambodia	Germany	Latvia	Portugal	Turkey
Canada	Greece	Lebanon	Qatar	Tuvalu
Chile	Guatemala	Lithuania	Romania	Ukraine
China P. R.	Haiti	Macedonia, FYR	Russian Federation	United Kingdom
Colombia	Honduras	Malaysia	Samoa	United States
Costa Rica	Hungary	Malta	Saudi Arabia	Vanuatu
Croatia	Iceland	Mauritius	Singapore	Venezuela, Rep. Bol.
Cyprus	India	Mongolia	Slovak Republic	Vietnam
Czech Republic	Indonesia	Morocco	Slovenia	Yemen, Republic of

Table A2. Major Source Countries of Tourist Arrivals in PICs over 2000-2012

Australia	Japan	Philippines
China	Malaysia	United Kingdom
India	New Zealand	United States

Table A3. Series and Data Sources

Abbreviation	Series	Source of Data
X_{ijt}	PICs' exports (deflated by US import price index, US$)	IMF
M_{ijt}	PICs' imports (deflated by US export price index, US$)	IMF
P_{it}	PICs' population (persons)	IMF
P_{jt}	Trading partners' population (persons)	IMF
Y_{it}	PICs' real GDP (deflated by US GDP deflator, US$)	IMF
Y_{jt}	Trading partners' real GDP (deflated by US GDP deflator, US$)	IMF
D_{ij}	Distance between capitals of pairwise trading partners (kms)	CEPII – French Research Centre for International Economics
F_{ij}	Trade agreement between trading countries (binary series)	Country authorities

C_{ij}	Exporter and importer share colonial ties (binary series)	ICOW data - Paul Hensel
V_{ijt}	Tourist arrivals in PICs (persons)	Country Authorities
U_{it}	PICs' urban population ratio (%)	WDI
YPC_{jt}	Source countries' real GDP per capita (US$)	IMF
N_{jt}	Source countries' population (persons)	World Bank
L_{ij}	Common language (binary series)	InfoPlease database - Pearson
S_i	PICs' surface area (kmsq)	World Bank

Table A4. Summary Statistics: Exports from PICs (Based on 3028 observations)

	PICs' exports (US$m)	PICs' population (million persons)	Trading partners' population (million persons)	PICs' real GDP (US$b)	Trading partners' real GDP (US$b)	Distance (000 kms)	Trade agreement between trading countries	Exporter and importer share colonial ties
Mean	32.30	1.95	124.75	2.80	1334.33	9.96	0.38	0.06
St. dev.	153.02	2.45	290.24	3.09	2631.85	5.28	0.49	0.24
Max	3260.00	7.17	1354.04	15.03	14937.56	19.39	1.00	1.00
Min	0.10	0.10	0.00	0.21	0.01	0.75	0.00	0.00

Table A5. Summary Statistics: Imports of PICs (Based on 4104 observations)

	PICs' imports (US$m)	PICs' population (million persons)	Trading partners' population (million persons)	PICs' real GDP (US$b)	Trading partners' real GDP (US$b)	Distance (000 kms)	Trade agreement between trading countries	Exporter and importer share colonial ties
Mean	23.72	1.79	112.61	2.65	1106.55	10.96	0.34	0.05
St. dev.	110.20	2.37	270.73	3.01	2321.52	4.97	0.47	0.22
Max	2856.60	7.17	1354.04	15.03	14937.56	19.12	1.00	1.00
Min	0.03	0.10	0.00	0.21	0.01	0.75	0.00	0.00

Table A6. Summary Statistics: Demand for PIC's Tourism (Based on 273 observations)

	Destination country's urban population ratio (%)	Tourist arrivals in PICs (000 persons)	Source country's population (000 persons)	Common language (binary variable)	Distance (000 kms)	Surface (000 kmsq)	Source country's real GDP per capita (US$ 000)
Mean	25.84	1.97	199.93	0.81	6.57	160.88	25.95
St. dev.	14.37	3.83	351.54	0.39	4.23	213.99	11.07
Max	52.63	25.86	1350.70	1.00	16.32	462.84	42.80
Min	12.43	0.01	3.86	0.00	2.43	0.75	1.51