

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT  
UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

# TRANSPORT AND TRADE FACILITATION

Series No 18



Analysis  
of maritime  
connectivity in  
the Association  
of Southeast Asian  
Nations and small  
island developing  
States in the Pacific



**United  
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The report was produced under the project entitled “Sustainable maritime and port connectivity for resilient and efficient supply chains in the aftermath of COVID-19 (Phase I)”, led by ESCAP, in collaboration with UNCTAD, and financed the Government of China. The project aims at improving the quality of maritime and port connectivity policies and related regional cooperation in the maritime sector in ASEAN and Pacific SIDS, contributing to greater resilience of the Asia and the Pacific position in global supply chains in the context of COVID-19.

The report assesses maritime connectivity in the countries of the Association of Southeast Asian Nations and in Pacific small island developing States.

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## Introduction

Maritime connectivity, i.e. the relative position of a country in liner shipping networks, matters for trade prospects and competitiveness (Fugazza and Hoffmann, 2017). UNCTAD maintains several statistical datasets that enable monitoring maritime connectivity trends, on a quarterly basis, since 2006. These include the country Liner Shipping Connectivity Index (LSCI), the Liner Shipping Bilateral Connectivity Index (LSBCI) and the port LSCI which are based on carriers' liner (planned) schedules. In addition, the port calls dataset provides insights in terms of the number and characteristics of vessels calling at ports.

This paper analyses maritime connectivity trends in two regions, namely the Association of Southeast Asian Nations (ASEAN)<sup>1</sup> and Pacific Small Islands Developing States (SIDS)<sup>2</sup> using these different UNCTAD maritime transport indicators. It aims to deepen understanding of global and regional shipping connectivity trends in these two regions.

It analyses how well they are connected between them and with the rest of the world, how their connectivity levels have changed in the long-term (i.e. over the past fifteen years) and more recently (since the Covid-19 outbreak) and explores reasons behind connectivity changes.

The report is organized as follows: The first part analyses the country Liner Shipping Connectivity Index (LSCI), (i) benchmarking the two regions against global and regional connectivity levels, (ii) examining short- and mid-term changes to connectivity levels and (iii) zooming in on the behaviour of the different components underpinning the LSCI for countries in the two regions. The second part analyses the connections between countries and changes using the Liner Shipping Bilateral Connectivity Index (LSBCI). The third part analyses connectivity trends at the port level, followed by the fourth examining port call patterns.

### 1. UNCTAD Country LSCI<sup>3</sup>

The LSCI indicates a country's integration level into global liner shipping networks. The LSCI is an index set at 100 for the maximum value of country connectivity in the first quarter (Q1) of 2006, which was China. The current version of the LSCI is generated from the following six components: (i) the number of scheduled ship calls per week in the country; (ii) deployed annual capacity in Twenty-Foot-equivalent Units (TEU): total deployed capacity offered at the country; (iii) the number of regular liner shipping services from and to the country; (iv) the number of liner shipping companies that provide services from and to the country; (v) The average size in TEU of the ships deployed by the scheduled service with the largest average vessel size and (vi) the number of other countries that are connected to the country through direct liner shipping services<sup>4</sup>. The data on these components is provided by MDSTransmodal.

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<sup>1</sup> ASEAN members include Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. Lao PDR is not covered in this analysis because it is a landlocked country.

<sup>2</sup> Pacific SIDS include Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu.

<sup>3</sup> The full dataset is accessible via <http://stats.unctad.org/lsci>

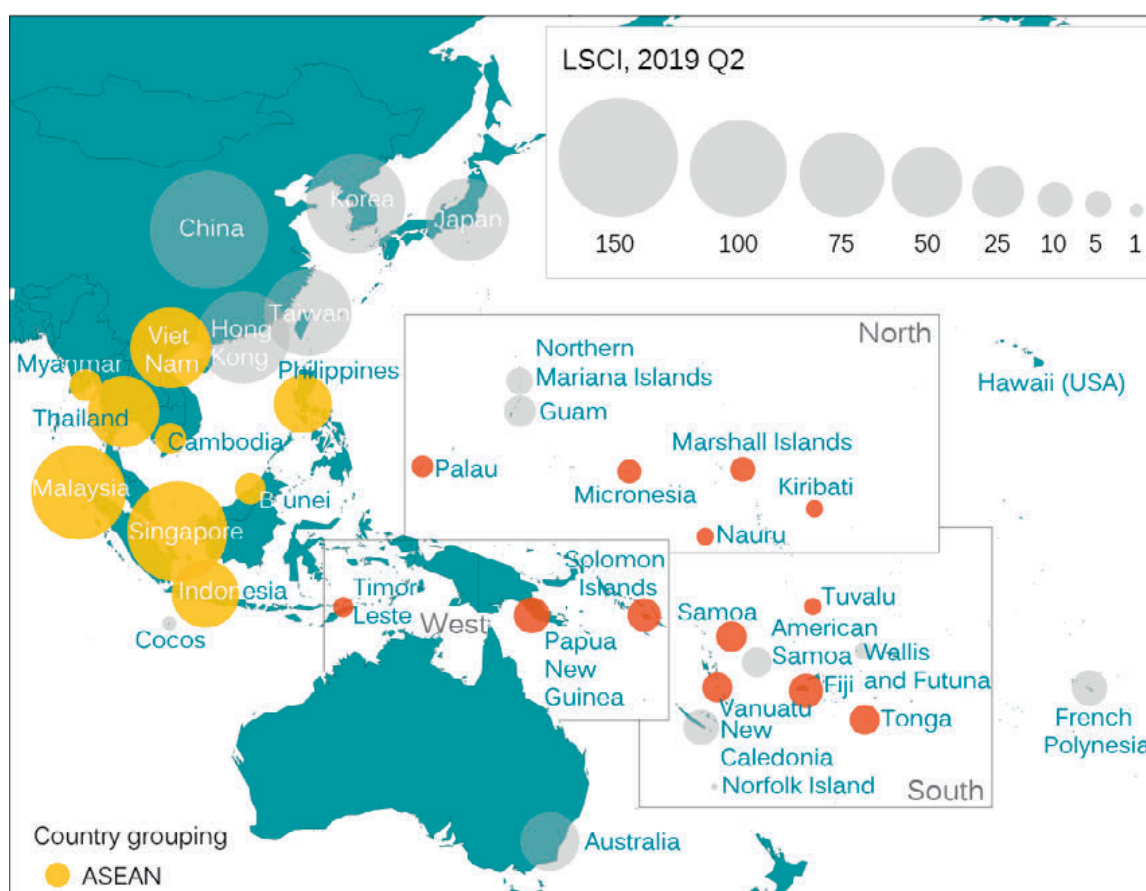
<sup>4</sup> A direct service is defined as a regular service between two countries; it may include other stops in between, but the transport of a container does not require transshipment

### 1.1. Benchmarking the two regions

The map in Figure 1 presents the geographical setting of the two regions and their LSCI levels in 2019 (second quarter)<sup>5</sup>. It shows that ASEAN countries are concentrated on a small area and the Pacific SIDS are widely dispersed. While being close, both country groupings are at opposite ends of the spectrum in terms of maritime connectivity, as highlighted in Table 1.

ASEAN countries are better connected given their central position along major trade routes compared to Pacific SIDS. Only some of latter are served by North-South routes such as those linking Australia and New Zealand with East Asia and North America. Pacific SIDS are also served by two regional hubs: Guam in the Northern part and Fiji in the Southern part (Arslanap et al., 2021).

Figure 1: Countries covered in this analysis: ASEAN members and Pacific SIDS, 2019 Q2



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