The Trade Impact of Enhanced Multimodal Connectivity in the Asia-Pacific Region

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Abstract

This paper develops new measures of multimodal transport connectivity, and uses a gravity model to show that improving performance could lead to major trade gains for the Asia-Pacific region. By improving multimodal connectivity by 5%, APEC would increase exports by around 4%, or between 2% and 6% per member economy. In dollar terms, this equates to an impact gain of $500bn in total, or between $850m and $115bn per member economy. Economies that are open, highly integrated into world markets, and with strong connectivity baselines stand to gain the most. We also find that of the elements of multimodal transport connectivity, it is logistics services performance that generally has the strongest

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I. Introduction

The Asia-Pacific Economic Cooperation (APEC) has a long history of involvement with trade facilitation. Its two Trade Facilitation Action Plans adopted the goal of reducing trade transactions costs by five percent over five years. Although performance against this metric has been mixed, there is evidence that significant trade cost reductions have indeed taken place within the region over recent years (e.g., Shepherd 2010).

More recently, APEC has identified underdeveloped multimodal transport capabilities as one of the priority chokepoints to be addressed under the Supply Chain Connectivity Framework.\(^1\) Multimodal transport connectivity is a complex concept. It involves the quality and quantity of infrastructure, as well as the private sector’s ability to coordinate intermodal linkages. It includes individual modes of transport (air, sea, and land) as well as intermodal linkages. As such, it entails a network of links (such as the roadways, railways and transport routes) and nodes (facilities such as marine ports and airports). According to Battaglia (2007), a holistic view of transportation in which individual transportation modes work together or within their own niches is a useful way to understand the concept of intermodalism.

This paper is the first attempt to comprehensively assess and model the impact of multimodal transport connectivity within APEC. Work already exists on individual modes of transport, such as air (Geloso Grosso and Shepherd 2009). Previous work on trade facilitation in APEC includes indicators of the quality of air and maritime infrastructure (Wilson \textit{et al.} 2004). In addition, Limao and Venables (2001) show more generally that infrastructure—an average of performance in road, rail, and telecommunications—is an important determinant of bilateral trade. This paper extends this line of research by including air, land, and maritime links in a single modeling framework, and by showing the importance not just of modal performance, but of ensuring that all modes can work together within a

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\(^1\)A conclusion from the APEC Supply Chain Connectivity Symposium held in May 2009.