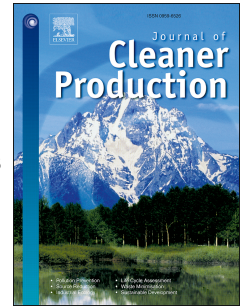


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Identifying the economic and environmental impacts of China's trade in intermediates within the Asia-Pacific region

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1 **Identifying the Economic and Environmental Impacts of China’s Trade in Intermediates**  
2 **within the Asia-Pacific Region**

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8

9 **Abstract:** Using value-added and employment as the representatives of economic benefits and  
10 carbon emissions as the proxy of environmental costs of trade, this study analyzes the impacts of  
11 China’s trade in intermediates with major trading partners in the Asia-Pacific region (Australia,  
12 Canada, Japan, Korea, Mexico, Taiwan, and the USA) on its economy and environment during  
13 2000–2014 through hypothetical extraction method and structural decomposition analysis. Results  
14 show that China’s trade in intermediates within the region induced a higher share of carbon  
15 emissions than those of value-added and employment. The economic and environmental impacts  
16 of China’s trade in intermediates with the seven trading partners were mainly driven up by the  
17 intensifying international industrial linkages. Technical factors induced considerable negative  
18 effects on the impacted carbon emissions and employment. At the sectoral level, the expanding  
19 intermediate trade of heavy industries brought the major part of increasing impacts on carbon  
20 emissions, value-added, and employment. The impacted employment shifted toward high-skilled  
21 occupations, especially in heavy industries and services, and the impacted low-skilled  
22 employment decreased in most sectors. Finally, related policy implications are deduced.

23 **Keywords:** Trade in intermediates; Value-added; Employment; Carbon emissions; Hypothetical  
24 extraction method; Structural decomposition analysis  
25

26 **1. Introduction**

27 During the past few decades, since the reform and opening up in the late 1970s, China has  
28 gradually become “the world’s factory.” Along with the increasing involvement of China in world  
29 production, an upsurge transpired in Chinese foreign trade, especially after its accession to WTO  
30 in 2001. The total value of China’s foreign trade increased by nearly eight times from 2001 to  
31 2015, from US\$ 0.57 trillion to US\$ 4.47 trillion (UNCTAD, 2016). Along with the spreading of

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