## Measuring the impact of outward direct investment on home country's employment: The case of China's ODI to the US

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China's outward direct investment (ODI) has been growing rapidly in the past few years. Understanding the impact of ODI on home country employment is of vital importance. At present, the research methods are mainly econometric model or input-output technology, however, neither method could consider the change of elasticity of employment to ODI and the interaction effect between industries at the same time. In this paper, a new measurement is proposed based on the state space model and input-output technology. Firstly, the state space model is used to estimate the export-ODI elasticity. Then, based on the calculated elasticity, the input-output model is used to estimate the amount of employment stimulated by the growth of ODI. The models can not only measure the direct effect of ODI growth on employment, but also take lag effect and the interaction effect of various sectors into account. Using China's ODI and export data to the US and WIOT from 2009 to 2014, we did an empirical study and find that: (1) China's ODI of construction industry and information transmission, computer services and software industry have a negative effect on the export, while in other industries there exists a positive effect; (2) The growth of ODI of single sector has a positive effect on the total employment; (3) China's employment induced by the increase of ODI to the US shows a downward trend from 2010 to 2014; (4) The impact of ODI of computer services and software industry on export has a lagging effect.