

## CTEI WORKING PAPERS

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# ***DECOMPR: GLOBAL VALUE CHAIN DECOMPOSITION IN R<sup>a</sup>***

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### Abstract

Global Value Chains have become a central unit of analysis in research on international trade. However, the complex matrix transformations at the basis of most Value Chain indicators still constitute a significant entry barrier to the field. The R package *decompr* solves this problem by implementing the algorithms for the analysis of Global Value Chains as R procedures, thereby simplifying the decomposition process. Two methods for gross export flow decomposition using Inter-Country Input-Output tables are provided. The first method concerns a decomposition based on the classical Leontief (1936) insight. It derives the value added origins of an industry's exports by source country and source industry, using easily available gross trade data. The second method is the Wang-Wei-Zhu algorithm, which splits bilateral gross exports into 16 value added components. These components can broadly be divided into domestic and foreign value added in exports. Using the results of the two decompositions, *decompr* provides a set of Global Value Chain indicators, such as the now standard Vertical Specialisation ratio. This article summarises the methodology of the algorithms, describes the format of the input and output data, and exemplifies the usefulness of the two methods on the basis of a simple example data set.

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