

## Chinese Environmentally Extended Input-Output (CEEIO) Database

Topic: 814E Special session: Economic and Environmental Relationship in Asian-Pacific (2)

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Addressing China's environmental issues requires the investigation of relationships between its economic activities and the biophysical environment. Environmentally extended input-output (EEIO) models can capture such relationships and uncover the structure of economies. EEIO models are hence increasingly used in studying environmental issues in China.

EEIO models are constructed based on EEIO databases. Existing EEIO databases for China are usually not publicly available, causing repeated efforts to construct EEIO databases for China. Data sources and estimation methods are also not always consistent with one another, making it hard to compare results of different EEIO models. Moreover, environmental accounts in existing EEIO databases are limited and not continuously updated.

We address these problems by building a consistent EEIO database for China covering a wide range of years, sector classifications, and environmental accounts. We make it publically available with open access for broad dissemination. The Chinese EEIO (CEEIO) database has the following advantages.

First, CEEIO covers multiple years (currently including 1992, 1997, 2002, and 2007) in which benchmark input-output (IO) tables are available in China. This database can also be updated to latest time points when related data are available.

Second, CEEIO is publicly available with open access (<http://www.ceeio.com>), which helps avoid repeated efforts of database construction.

Third, CEEIO is constructed based on published data from China's statistics and widely used estimation methods from peer-reviewed articles, which makes the system boundary of this database consistent for multiple years and with previous studies.

Fourth, CEEIO has a wide range of environmental accounts, covering 243 types of resources and 30 types of pollutants. Environmental accounts of this database can be expanded when reliable data for emerging pollutants are available.

Fifth, CEEIO provides data in three categories of sector classifications: the original sector classifications in the government's benchmark input-output tables (i.e., 118 sectors in 1992, 124 sectors in 1997, 122 sectors in 2002, and 135 sectors in 2007), a 45-sector classification commonly used in China's environmental and energy statistics, and a 91-sector classification with temporal consistence and maximized sector resolution. Such sector classifications offer different options for users.

Lastly, environmental accounts of an economy comprise those for industries and those for households. Existing EEIO databases for China only cover environmental accounts for industries, ignoring those for households. CEEIO covers environmental accounts of households in addition to industries, allowing closed input-output modeling.

We demonstrate CEEIO database by evaluating environmental pressures of Chinese products in 2007. Comparisons of our database with previous studies validate its rationality and reliability.