SECTORAL, SPATIAL AND SCARCITY STRUCTURE OF THE CHILEAN WATER FOOTPRINT: A GLOBAL MULTI-COUNTRY INPUT-OUTPUT ANALYSIS.

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Abstract

The water pressures generated by the final consumption of the Chilean economy remain largely unquantified. Despite Chile's modest economic size, characterizing its water footprint is critical for developing internal sustainability policies and assessing the broader impacts of its consumption. This study provides the first estimation of these pressures, identifying their geographic distribution, disaggregating them by economic sectors, and calculating their scarcity content - reflecting the relative water scarcity in the regions where water is extracted to support Chilean consumption. An environmentally extended multi-regional input-output (MRIO-EE) model forms the foundation of this analysis. The model incorporates water data for Chile from diverse national sources, the Aquastat database for other countries, and global input-output tables from the OECD (covering 70 countries). The results reveal that 72% of the water pressures associated with Chilean consumption occur within its national borders, with the mining sector contributing the largest share of the water footprint. However, when adjusted for water scarcity, this figure drops to 43%, as many imported goods and services originate in countries with higher relative water scarcity. These findings offer a global perspective on the Chilean economy's impact on planetary water resources, providing actionable insights for policy development. Recommendations include fostering incentives for cleaner imports, promoting substitution strategies, and implementing targeted policies to reduce the water footprint of domestic and international supply chains, thereby enhancing Chile's contribution to sustainable water resource management.

Key words: Input-output, global water footprint, water scarcity, Chile.

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