**Title:** On the structure of the world economy

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**Abstract:** The expansion of global production networks has raised many important questions about the interdependence among countries and how future changes in the world economy are likely to affect the countries’ positioning in global value chains. We are approaching the structure and lengths of value chains from a completely different perspective than has been available so far. By assigning a random endogenous variable to a network linkage representing the number of intermediate sales/purchases before absorption (final use or value added), the discrete-time absorbing Markov chains proposed here shed new light on the world input/output networks. The variance of this variable can help assess the risk when shaping the chain length and optimize the level of production. Contrary to what might be expected simply on the basis of comparative advantage, the results reveal that both the input and output chains exhibit the same quasi-stationary product distribution. Put differently, the expected proportion of time spent in a state before absorption is invariant to changes of the network type. Finally, the several global metrics proposed here, including the probability distribution of global value added/final output, provide guidance for policy makers when estimating the resilience of world trading system and forecasting the macroeconomic developments.

**Keywords**: world economy; global production networks; discrete-time absorbing Markov chain; sensitivity analysis

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