# The Struggle for Existence in the World Market Ecosystem.

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The global trade system can be viewed as a dynamic ecosystem in which exporters struggle for resources: the markets in which they export. We can think that the aim of an exporter is to gain the entirety of a market share (say, car imports from the United States). This is similar to the objective of an organism
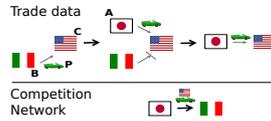
in its attempt to monopolize a given subset of resources in an ecosystem. In this paper, we adopt a multilayer network approach to describe this struggle. We use longitudinal, multiplex data on trade relations, spanning several decades. We connect two countries with a directed link if the source country's appearance in a market correlates with the target country's disappearing, where a market is defined as a country-product combination in a given decade. Each market is a layer in the network. We show that, by analyzing the countries' network roles in each layer, we are able to classify them as out-competing, transitioning or displaced. This classification is a meaningful one: when testing the future
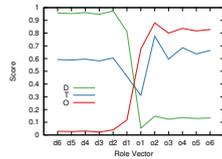

Figure 1: The average role-feature scores per cluster. O = Out-competing, D = Displaced, T = Transitioning.

export patterns of these countries, we show that out-competing countries have distinctly stronger growth rates than the other two classes.
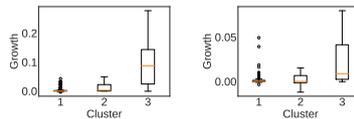

Figure 2: The distribution of growth rates for countries classified in the different clusters.In our best case, the out-competing cluster was able to correctly capture all the eleven fastest growing countries in the manufacturing sector in the 80s.