

# **THE ARCHITECTURE OF COMPLEXITY: FROM NETWORKS TO INTERNATIONAL TRADE**

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Highly interconnected networks with amazingly complex topology describe systems as diverse as the World Wide Web, Internet or the economy. Recent studies indicate that these networks are the result of self-organizing processes governed by simple but generic laws, resulting in architectural features that make them much more similar to each other than one would have expected by chance. I will discuss the amazing order characterizing our interconnected world and its implications to network robustness and spreading processes, I will pay particular attention to international trade and its network representation. Indeed, the technology, capital, institutions, and skills needed to make new products are more easily adapted from some products than from others. I will discuss the network of relatedness between products, or “product space,” finding that more-sophisticated products are located in a densely connected core whereas less- sophisticated products occupy a less-connected periphery. Empirically, countries move through the product space by developing goods close to those they currently produce. Most countries can reach the core only by traversing empirically infrequent distances, which may help explain why poor countries have trouble developing more competitive exports and fail to converge to the income levels of rich countries.

## **Keywords**

Networks, scale-free networks, international trade