Chapter 15

GLOBALIZATION AND INTERNATIONAL TRADE
Utilizing Insights from Graph Theory

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Introduction

Individuals are mutually linked within an estimated six degrees of separation (Watts, 2003).¹ The notion of such an intertwined world has fascinated many, and serves as a fundamental principle for new and exciting technologies. Inventions ranging from the Internet to the cellular phone make use of a deep and persistent interconnectedness. In turn, these inventions create and destroy new links amongst people, as do many other phenomena such as disease, natural disasters, and trade. Measuring the quality and the quantity of these links between individuals has been a popular pursuit of sociologists.² But what can be learned when one implements those same empirical techniques at other societal and political levels?

In this chapter, we explore a new approach to identifying the complex hierarchical order that shapes international relations. By applying techniques from graph theory to examine relationships between countries, we break from a long line of international systems’ scholars to take a new path, a path that should help us better understand the dynamic interactions of nations. We approach our analysis along two layers of the international system: the macrolayer, or overarching structure of the international order involving all nations, and the submacrolayer, whereby groups of nations interact.³ We conclude with a brief discussion on the applicability of our methodology,

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² Watts (2003) provides a good review of the sociological research on interconnectedness.
³ The third and final layer is the microlayer, involving dyadic relationships between two countries.
and how our findings may be used to tackle other questions in international relations.

Theoretical Perspectives of the International System

Scholars in international relations have been extensively engaged in analyzing systemic effects in international politics. Given the broad corpus of literature on this issue and the seemingly perpetual debate over certain definitions and conjectures, we shall consider the literature while avoiding entrance into any particular arguments. In *Man, the State, and War*, Kenneth Waltz introduces three images for analyzing international relations (1954). Each image includes an area of study that can affect world politics. The first image includes individuals, the second image includes the domestic institutions of the nation, and the third image involves the international structure, or system. Waltz’s two chief goals are to justify realism in the context of international politics (that nations are driven by power-maximization rather than by simple desires for peace and harmony), and to stress the importance of research in the third image, and more broadly, for understanding systemic patterns of international relations.

Kaplan offers a framework for exploring international systems by considering six such states of equilibrium of the international order; note that only one of these over-arching systems can exist at any given time (1957: Chapter 2):

**The Balance of Power System:** Exists in a null political subsystem (anarchy). There are at least five “essential” actors/nations in a Balance of Power System that implement the “essential” rules which govern the characteristic behavior of the population of actors.

**The Loose Bipolar System:** Formalized, supranational actors as well as national actors both participate in such a system. Two subclasses of supranational actors must exist to form the bipolar system. During the time of the Cold War, NATO and the Communist blocs formed a Loose Bipolar System.

**The Tight Bipolar System:** Similar to the Loose Bipolar System except all national actors belong to one of the subclass supranational organizations. Such a system would resemble the international system during the Cold War if all of the members of the Third World had allied with NATO or the Communists.

**The Universal System:** The previous three systems include an anarchic political order; the universal system assumes that national actors are governed by a universal actor. If the United Nations and the World Trade Organization had greater power in the contemporary international system, we would call our modern-day international system a Universal System.