In this study, I test the gravity model in international trade in a series of simulation studies, with a focus on the impact of the distribution of economic activity, inter-regional distance measure, and the capital location choice in the gravity model estimation. Chapter 3 shows that the use of aggregated data causes biases in the estimation of the gravity model. Chapter 4 examines the relationship between estimation biases and economic clustering. Chapter 5 estimates the gravity model with a wide selection of main cities, and examines how the location of main city influences the gravity model estimation.