# THE EVOLUTION OF GROUPS IN THE INTERNATIONAL OIL TRADE NETWORK

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## Overview

There are many trade groups in the international trade network. Researchers have studied the structures of the international trade network as well as the trade groups in it. International oil trade as a subset of global trade, there are also some trade groups. They are evolving over time and are interrelated with the energy market of the world.

## Methods

To study the evolution of trade groups in the international oil trade network, we set up an oil trade network model based on complex network theory with the data from 2002 to 2011. The nodes are the countries, and the edges are the oil trade relations. We detect the groups in the oil trade networks and analyse their evolution properties and their stabilities over time.

## Results

We find that there are always 4 groups in the IOTN, and that countries cluster into groups according to their geographical positions. We also find that the division of the groups become vaguer which could be the clue？ to the Globalization of the oil trade. We observe that the Russian Cluster and the American Cluster are relatively stable in scale during 2002-2011, while scales and memberships of the Asian-Pacific Cluster and the European-African Cluster are changing from time to time. Two turning points in the evolution of groups in the IOTN appear, i.e. 2005 and 2009. The former has correlations with demand and supply of the world oil market, and the latter is connected with the 2008 Financial Crisis.

## Conclusions

This study proposes a new perspective for international oil trade research and produces some interesting results.

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