The Complexity of Bank Holding Companies

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Discussion by:

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Summary

This paper is about

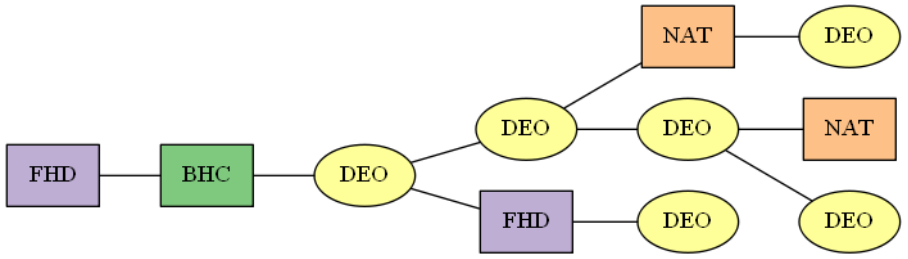
- ***Measuring*** the complexity of Bank Holding Companies (BHCs)
- Using ***Network Theory***

Main idea:

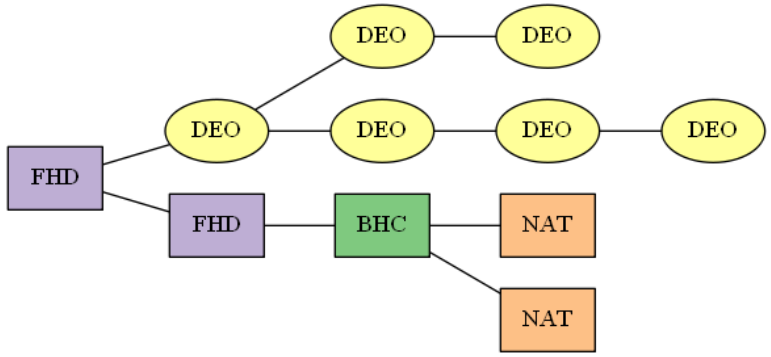
- Measure complexity by ***cross-regulation ownership relations***
  - Entity (charter) type
  - Geographic jurisdiction

Two examples of a BHC ownership network

Arranged arbitrarily



Organized by charter type



Complexity measure

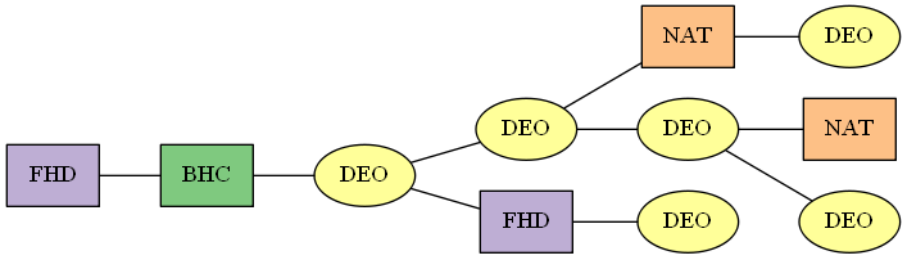
Heterogeneous quotient cycle Rank

- Heterogeneous quotient
  - Reduced multigraph of the BHC network
  - Nodes are types
  - (Multiple) links are cross-type links in BHC network

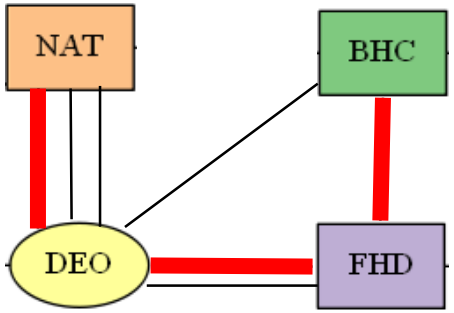
- Cycle Rank
  - Number of links that need to be removed in order to get a spanning tree

Heterogeneous quotient cycle rank

Arranged arbitrarily



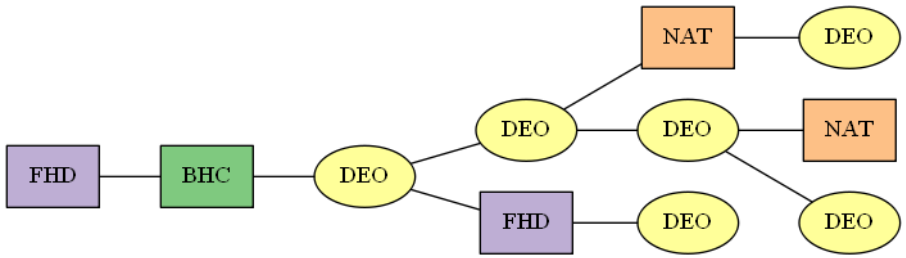
Heterogeneous quotient



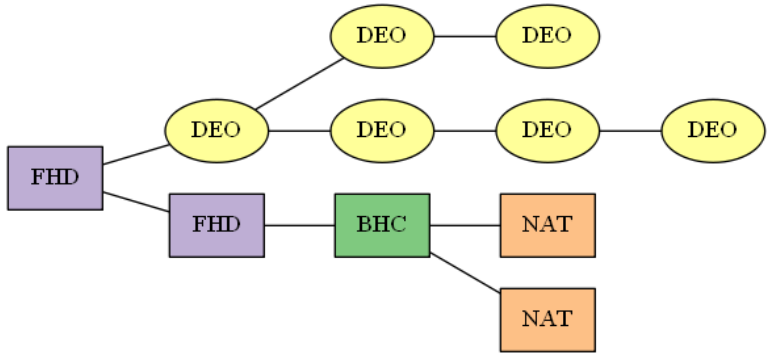
HQ Cycle Rank = 4

Heterogeneous quotient cycle rank

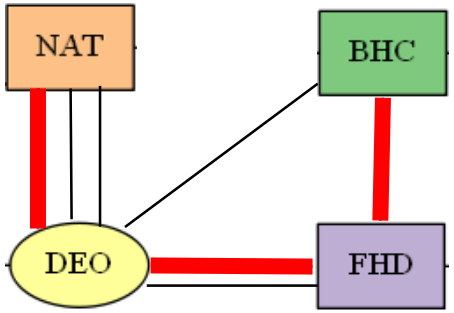
Arranged arbitrarily



Organized by charter type

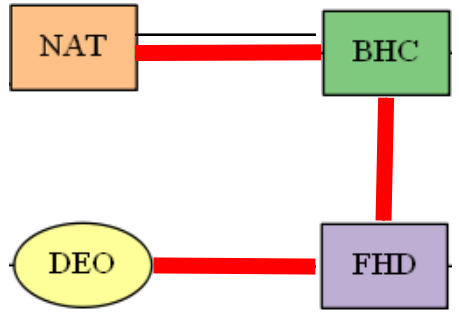


Heterogeneous quotient



HQ Cycle Rank = 4

Heterogeneous quotient



HQ Cycle Rank = 1

Complexity measure

Heterogeneous Quotient Cycle Rank

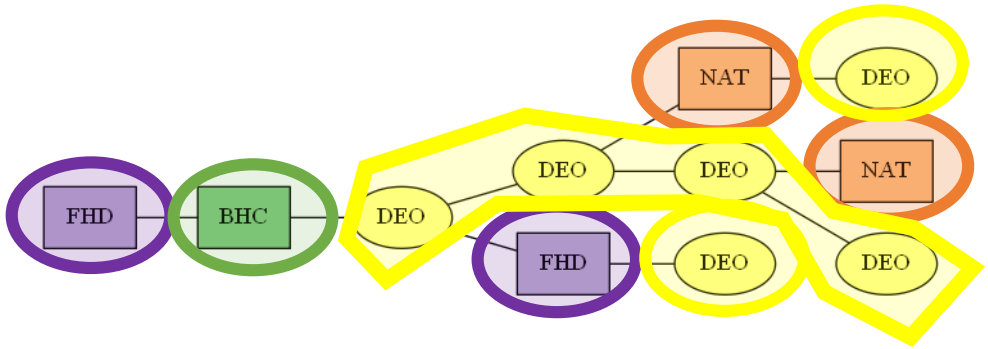
- HQCR = # of cross-type links - # of types +1

If BHC ownership network is a tree:

- HQCR = # of homogeneous components - # of types

Homogeneous components

Arranged arbitrarily

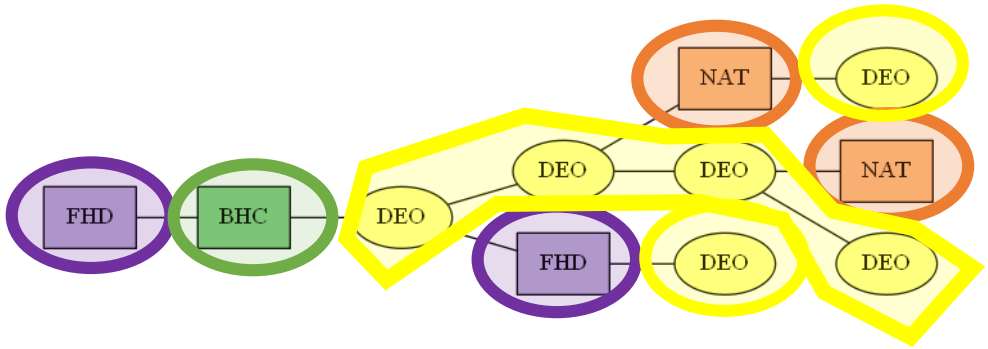


Homogeneous component count = 8

HQ Cycle Rank = 8 - 4 = 4

Homogeneous components

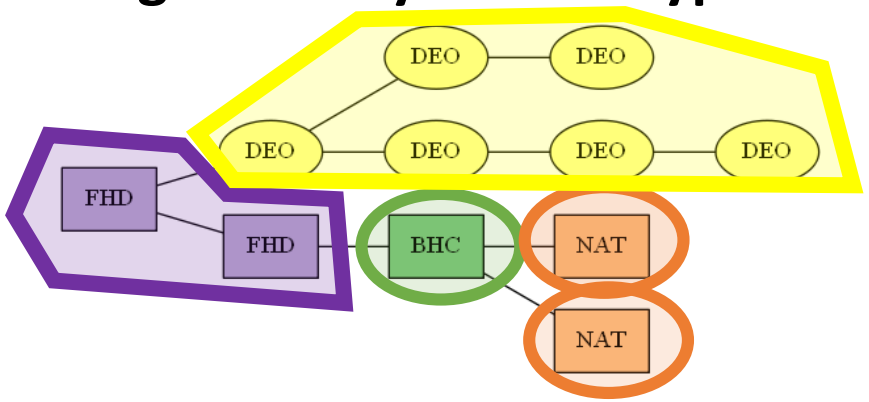
Arranged arbitrarily



Homogeneous component count = 8

HQ Cycle Rank = 8 - 4 = 4

Organized by charter type



Homogeneous component count = 5

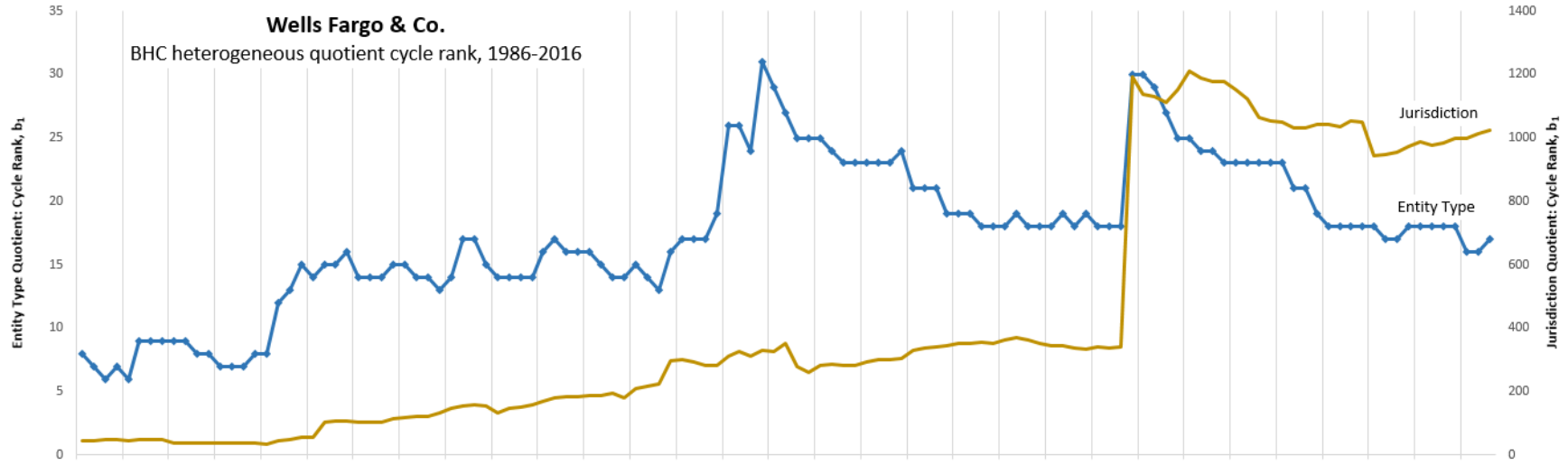
HQ Cycle Rank = 5 – 4 = 1

Comments

Strength:

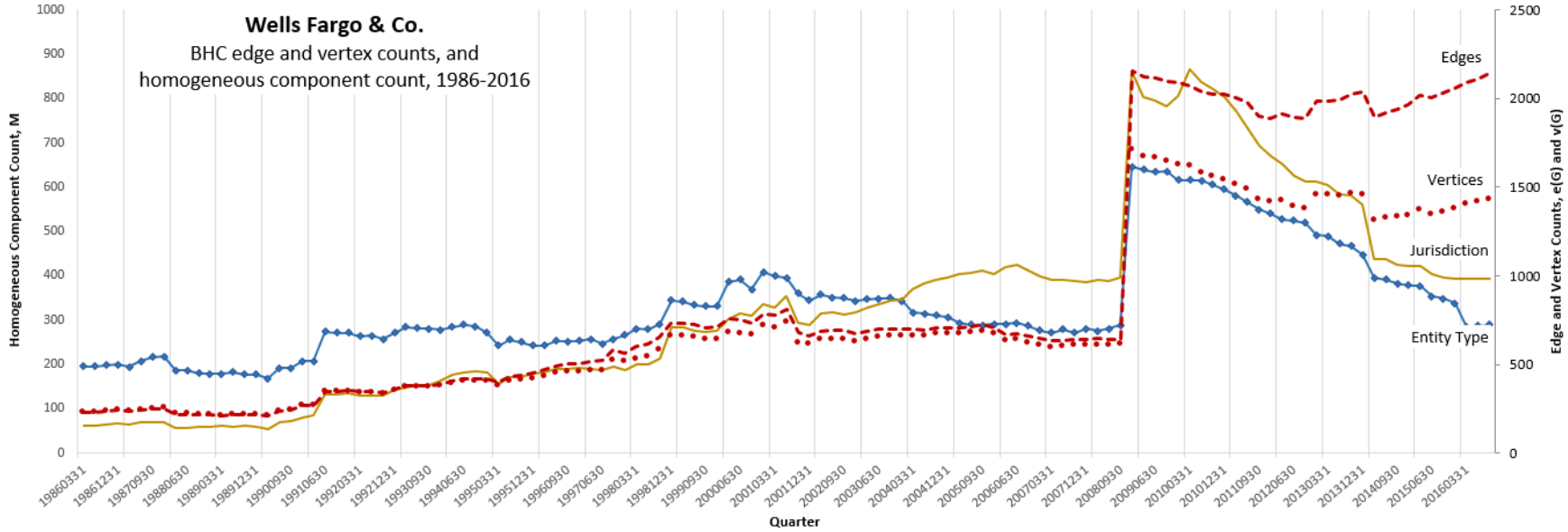
- New BHC complexity measure makes sense
- Different from simple count of # subsidiaries
- Measurable and tractable over time

Complexity measures for Wells Fargo & Co.



Heterogeneous Quotient Cycle Rank:

- Jurisdictions
- Entity Type



Links
Nodes

Homogeneous components:

- Jurisdictions
- Entity Type

Comments

More critical:

HQCR = # of cross-type links - # of types +1

- Do you need any further measures/complications?
- How to measure ownership network?

What would really interest me…

Is this BHC ***complexity*** measure (causally?) ***related to BHC outcomes***?

- CDS Spreads
- Government support to Banks (TARP)
- Unexpected losses/volatility
- Fines for fraud

World's Biggest Banks Fined $321 Billion Since Financial Crisis

By **Gavin Finch**
1 de marzo de 2017 11:01 p. m.

- European, Asian regulators to step up pace of fines, BCG says
- Regulation to keep increasing despite Trump, consultancy says

Banks globally have paid $321 billion in fines since 2008 for an abundance of regulatory failings from money laundering to market manipulation and terrorist financing, according to data from Boston Consulting Group.

That tally is set to increase in the coming years as European and Asian regulators catch up with their more aggressive U.S. peers, who have levied the majority of charges to date, BCG said in its seventh annual study of the industry published Thursday. Banks paid $42 billion in fines in 2016 alone, a 68 percent rise on the previous year, the data showed.

"As conduct-based regulations evolve, fines and penalties, along with related legal and litigation expenses, will remain a cost of doing business," analysts led by Gerold Grasshoff wrote. "Managing those costs will continue to be a major task for banks."

Bank Penalties
Global lenders have paid $321 billion in charges since the financial crisis
Fines

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Thank you!