# Corporate boards and corporate networks

Raddant Matthias (Kiel University) O Hiroshi Takahashi (Keio University)

概要— We analyze the dynamics of the Japanese board network from 2004 until 2013. We find that the network exhibits some clustering with visible firm conglomerates. Ties between firms are rather persistent, despite noticeable churning among directors. We also analyze the share of female board members and the determinants of their appointment.

キーワード: Corporate Governance, Social Network Analysis, Finance

# 1 Introduction

We study the dynamics and the determinants of the corporate board interlocks of roughly 4,000 Japanese firms from 2004 until 2013. We compare the network corporate boards with that given by ownership relations. We also analyze the share of female board members and the determinants of their appointment.

### 2 Data

**Multiple mandates of executives** Ties in the corporate board network are created when executives serve at the board of more than one company. The figure shows the frequency of board members with a certain number of mandates for the years 2004 – 2013 as an inverse CDF. For example, in 2013 we observe 36,697 executives of which 2,206 have more than one mandate.

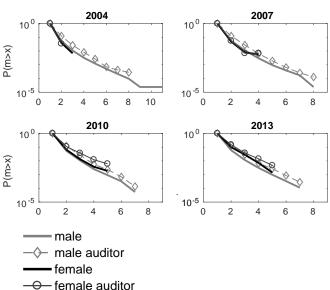


Fig. 1: Distributions of mandates

We show the frequency of the number of mandates on a semi-log scale for male and female board members. Additionally we show these figure only taking auditors into account. We observe that the maximum of mandates for female board members increases over time and that their relative frequency surpasses those of men.

#### 3 Result

#### 3.1 Board network in 2013

This network visualizations is based on the *fast unfolding* algorithm. We have color-coded the largest communities and named them by the most connected companies.

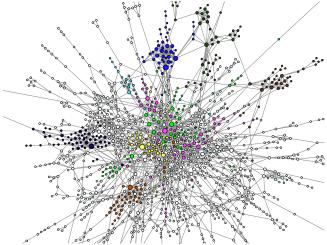


Fig. 2: Board network in 2013

## 3.2 Homophily in the network of corporate boards

The plot shows the average number of female board members in the ego networks of firms compared with the overall expected value. As networks we consider the board network, as well as the network towards owners and towards owned firms. We condition each case on whether at least one female board member is present on the board of the ego-firm.

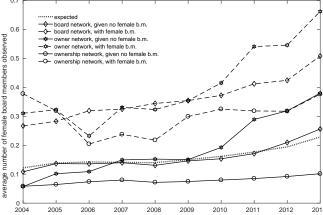


Fig. 3: Homophily in the network of corporate boards

## 参考文献

- 1) Milakovic, M., Alfarano, S., Lux, T., The small core of the German corporate board network. Computational and Mathematical Organization Theory, 16-2, 201/215 (2010)
- 2) Raddant, M., Milakovic, M., Birg, L., Persistence in corporate net- works. Econ Interact Coord, 12-2, 249/276 (2017)