Discussion of presentation by Hellqvist and Nummelin

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Summary (1/2)

- This research investigates new methods to identify behavioural changes in LVPS using:
  - Network topology studies
  - RTGS data
  - Simulations

- Analysis framework I:
  - Network indicators & Goodness of Fit tests (non parametric)
  - Distribution of network indicators contains information of network itself and generation process

- A set of network indicators is computed for each node of a certain period and compared to a set of another period.

Summary (2/2)

- Analysis framework II: Pair wise comparison of payment profiles
  - Profile describes the behaviour of banks in terms of timing, value and volume $\rightarrow$
    - "common profile" is defined.
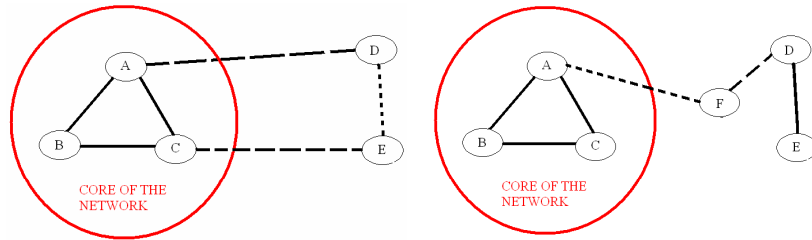   - Aggregation on participant and whole system level

Remarks (1/4)

- Exact analytical form of distribution unknown $\rightarrow$ empirical distribution
  - Known distributions might show more detail, but are they also meaningful?
  - It is good to get an understanding of the behaviour first before you zoom in to all the details.

- Aggregation on participant and whole system. Perhaps it is useful to aggregate at the core participants in the network.
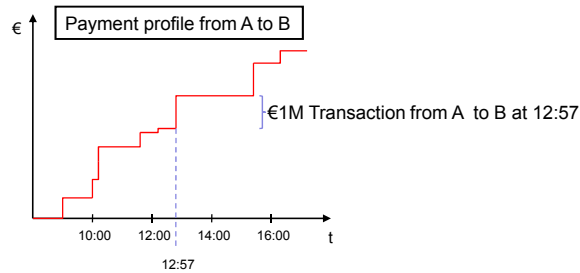
Remarks (2/4): Core of the network

Connected network

(temporary) disconnected network

Remarks (3/4)

- Payment profile from A to B:
  - To draw a conclusion on behavioural aspects it is also necessary to have profile from B to A. A change of behaviour of B can lead to a (necessary) reaction of A.
  - In other words: What is the cause and what is the effect?

Remarks (4/4)

- "Limitation 3: efficient in detail level rather than aggregated network level."
  - I believe this is the strength not a limitation!

Questions

- Network characteristics based on a day: What is the characteristic time a network forms (<< 1day)?
  - There might be changes in formation time

- Do you correct for seasonal effects in the comparison period or differences between T1 and T2? Can an "average comparison period" be defined? (limitation 1)

- Which network indicator(s) is/are best for identifying change in behaviour? (limitation 2).