Analyzing Market Trends through Money Flow

Project progress -- 11 November 2016

Project Overview

Two guiding questions

- Can money flow be used to identify marketspaces?
- Do changes in money flow reflect what we qualify as pivotal events and pivotal startups?

Using crunchbase to get quantitative information

- Acquisitions
- IPOs
- Funding rounds -- history
- Categories

Progress/Demo

```python
DG = nx.DiGraph()
for index in range(0, len(funds)):
    if (funds.iloc[index]['raised_amount'] != 'NaN'):
        node_from = funds.iloc[index]['fund_name']
        node_to = funds.iloc[index]['entity_uuid']
        edge_weight = funds.iloc[index]['raised_amount']
        DG.add_weighted_edges_from([(node_from, node_to, edge_weight)])
```

Also using categories to overlay onto nodes to look at connected components

```
In [26]: DG.in_degree()

Out[26]: {'FPE Capital Fund II LP': 0,
 '74b0e4ff-d6f2-fc71-625e-2d0781b8e3b4': 1,
 '4c25e504-81fc-0fdd-cd25-57a9fee990e1': 1,
 '155c9a56-ed74-0b7d-2b46-6e1e11a9efa5': 2,
 'DFJ Mercury Fund I': 0,
 '2a1c1c84-3dce-bc96-7cfd-06730de8bf8c': 1,
 'cd16e57a-28b3-6da5-e015-1d1f7624dbd0': 1,
 'b6076c53-1d5c-bad8-f378-a644d60e7fb6': 1,
 '735a53c6-a7ba-2434-d97d-b788536da89d': 5,
 'e714d011-1818-e58a-3815-c13b0e4ac348': 3,
 'Fund III': 0,
 'b525f256-9d14-7f5c-6238-706e7f946069': 1,
 'Naspers': 0,
 '95a950c1-89bd-cca6-a877-dca9f2cbe5ff': 1,
 '19622743-37c9-572d-0cbd-1e12301fefa2': 2,
 'fc7d2983-875d-4e73-c894-a0eb319d0f87': 1,
 'Investment fund III': 0,
 '220b9ca6-0a3a-c052-9aeb-071fdc86e0e3': 1,
 '46e148f0-2f76-653a-a76e-06bcdf9f33c1': 1,
```

```
In [27]: DG.out_degree()

Out[27]: {'FPE Capital Fund II LP': 1,
 '74b0e4ff-d6f2-fc71-625e-2d0781b8e3b4': 0,
 '4c25e504-81fc-0fdd-cd25-57a9fee990e1': 0,
 '155c9a56-ed74-0b7d-2b46-6e1e11a9efa5': 0,
 'DFJ Mercury Fund I': 1,
 '2a1c1c84-3dce-bc96-7cfd-06730de8bf8c': 0,
 'cd16e57a-28b3-6da5-e015-1d1f7624dbd0': 0,
 'b6076c53-1d5c-bad8-f378-a644d60e7fb6': 0,
 '735a53c6-a7ba-2434-d97d-b788536da89d': 0,
 'e714d011-1818-e58a-3815-c13b0e4ac348': 0,
 'Fund III': 70,
 'b525f256-9d14-7f5c-6238-706e7f946069': 0,
 'Naspers': 1,
 '95a950c1-89bd-cca6-a877-dca9f2cbe5ff': 0,
 '19622743-37c9-572d-0cbd-1e12301fefa2': 0,
 'fc7d2983-875d-4e73-c894-a0eb319d0f87': 0,
 'Investment fund III': 1,
 '220b9ca6-0a3a-c052-9aeb-071fdc86e0e3': 0,
 '46e148f0-2f76-653a-a76e-06bcdf9f33c1': 0,
```

Updated Timeline

Note: no longer prioritizing visualization (NetworkX also has basic visualizations)

21-Oct	Finalize direction with guiding questions
4-Nov	Test graph generation on small subset
11-Nov	Create present-day graph
18-Nov	Overlay categories and look at connected components
3-Dec	Analysis done on present-day map
10-Dec	Historical graphs based on events of interest with same analysis as above
Remaining time	Write paper