The Big Short (interest): Closing the Loopholes in the Dividend-withholding Tax

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Dividend-tax arbitrage is a common phenomonon in financial markets.
Reason: some investors have tax privileges for withholding taxes, whereas others do not.

In recent decades the arbitrage has taken a particularly aggressive form known as cum-cum/cum-ex trading

- In these transactions investment banks borrow stocks around the ex-dividend date
- Banks can benefit from the withholding-tax reimbursement, even though they are not beneficial owners of the stock
- In some cases total reimbursements >original tax payment

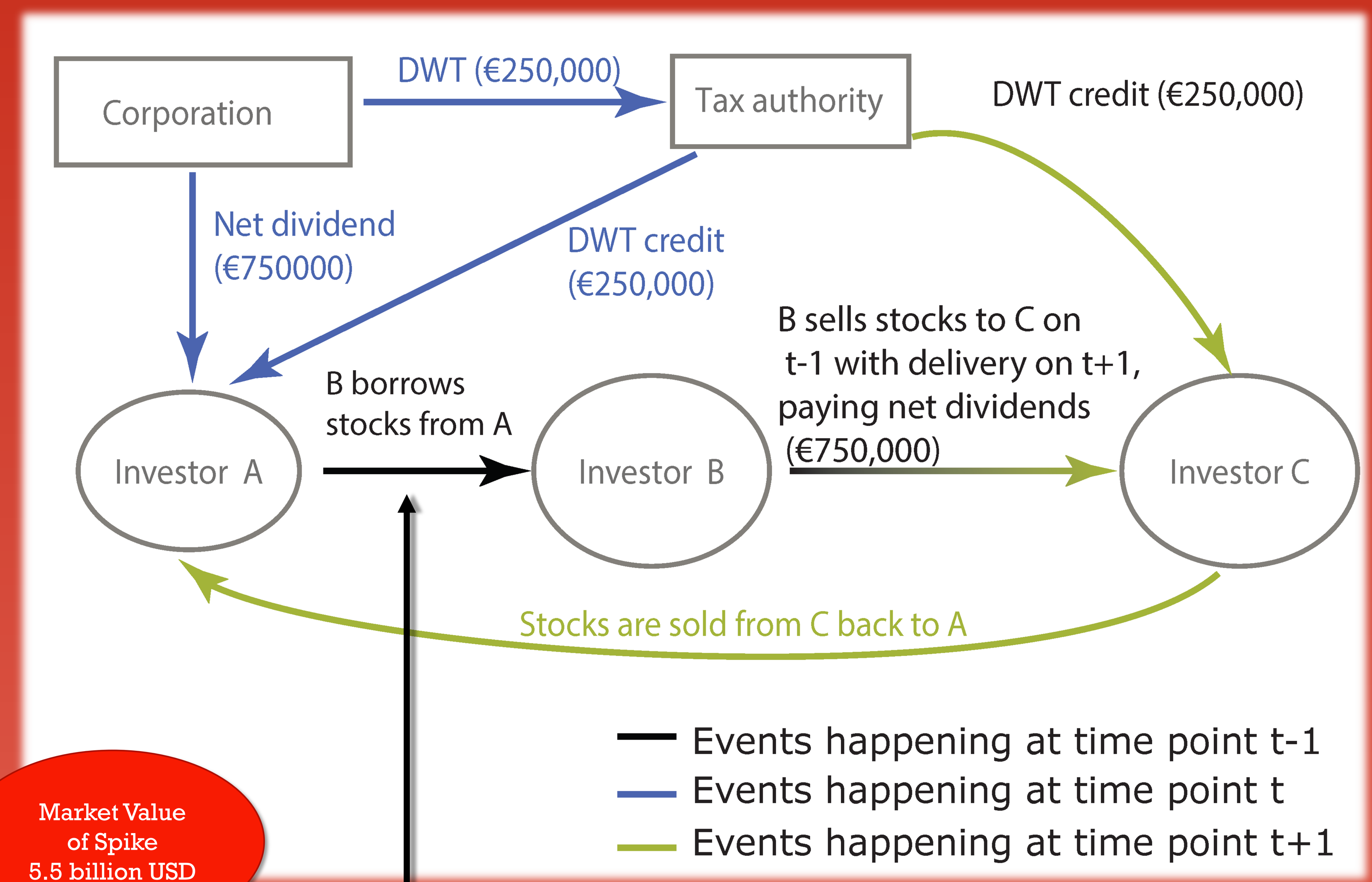
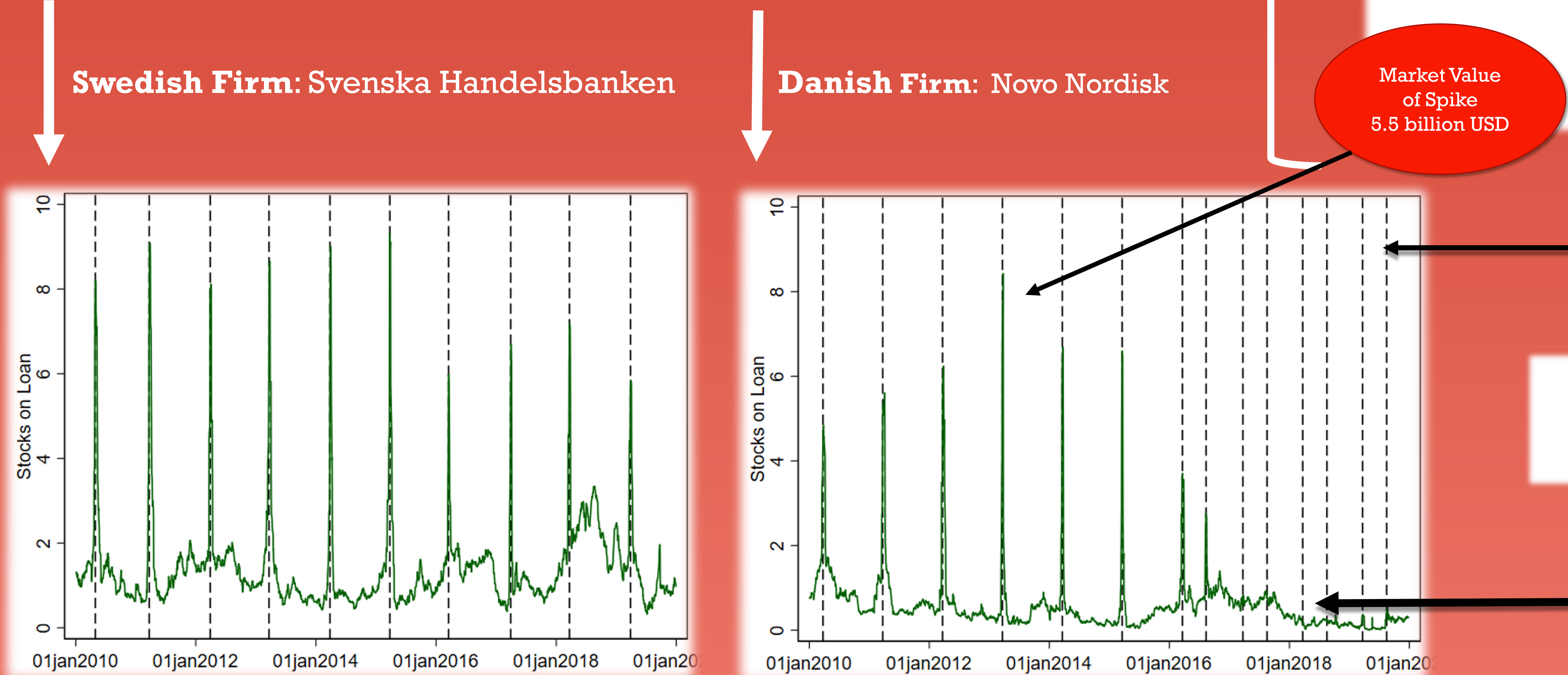


Fig 1: Example of a cum-ex transaction

➢ Cum-cum/cum-ex transactions are easily visible in security-lending data.

Swedish Firm: Svenska Handelsbanken

Danish Firm: Novo Nordisk



Dashed line: ex-dividend day at time point t
Spikes: Excess borrowing of stocks

Fig 2: Daily stocks on loan (in % of public float)

- Spikes in security-lending are present in most Western-European countries
  - Spikes were largest in Germany
  - on average 8-10(!!) % of the public float
- In 2016 Germany introduced a holding period required for reimbursement
  - Such a policy is already in place in Australia and US
- After the German reform the spikes disappear completely

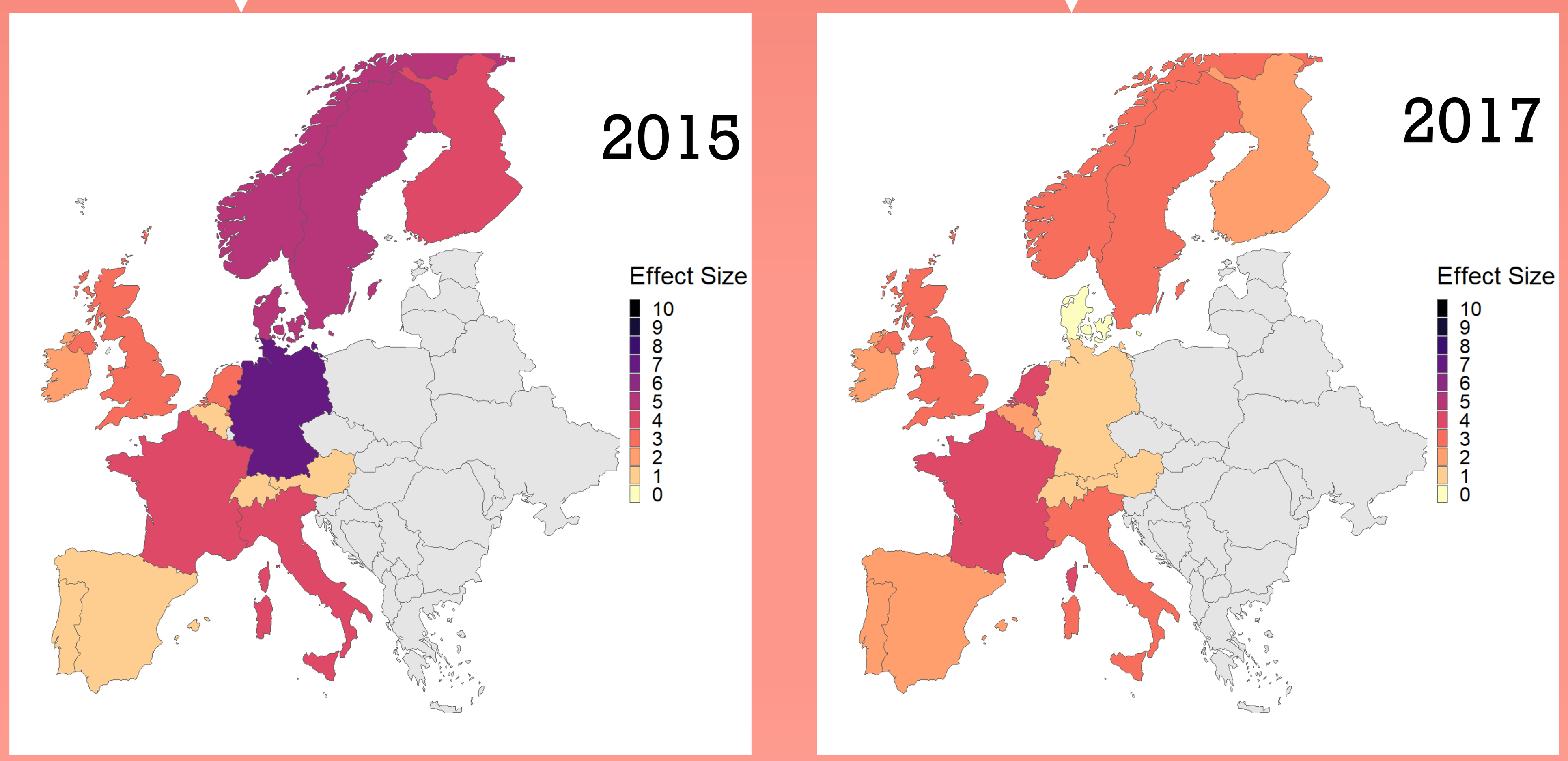


Fig 4: Excess borrowing on the ex-dividend date. Darker shades indicate larger spikes.

➢ We study a 2016-reform in Denmark targeted at closing the loophole$

Reform effect 1: no more short interest spikes. Average excess borrowing for Danish corporations drops from 4 percent to 0 percent.
Reform effect 2: 1.3 billion increase in tax revenue (130 % of pre-reform revenue

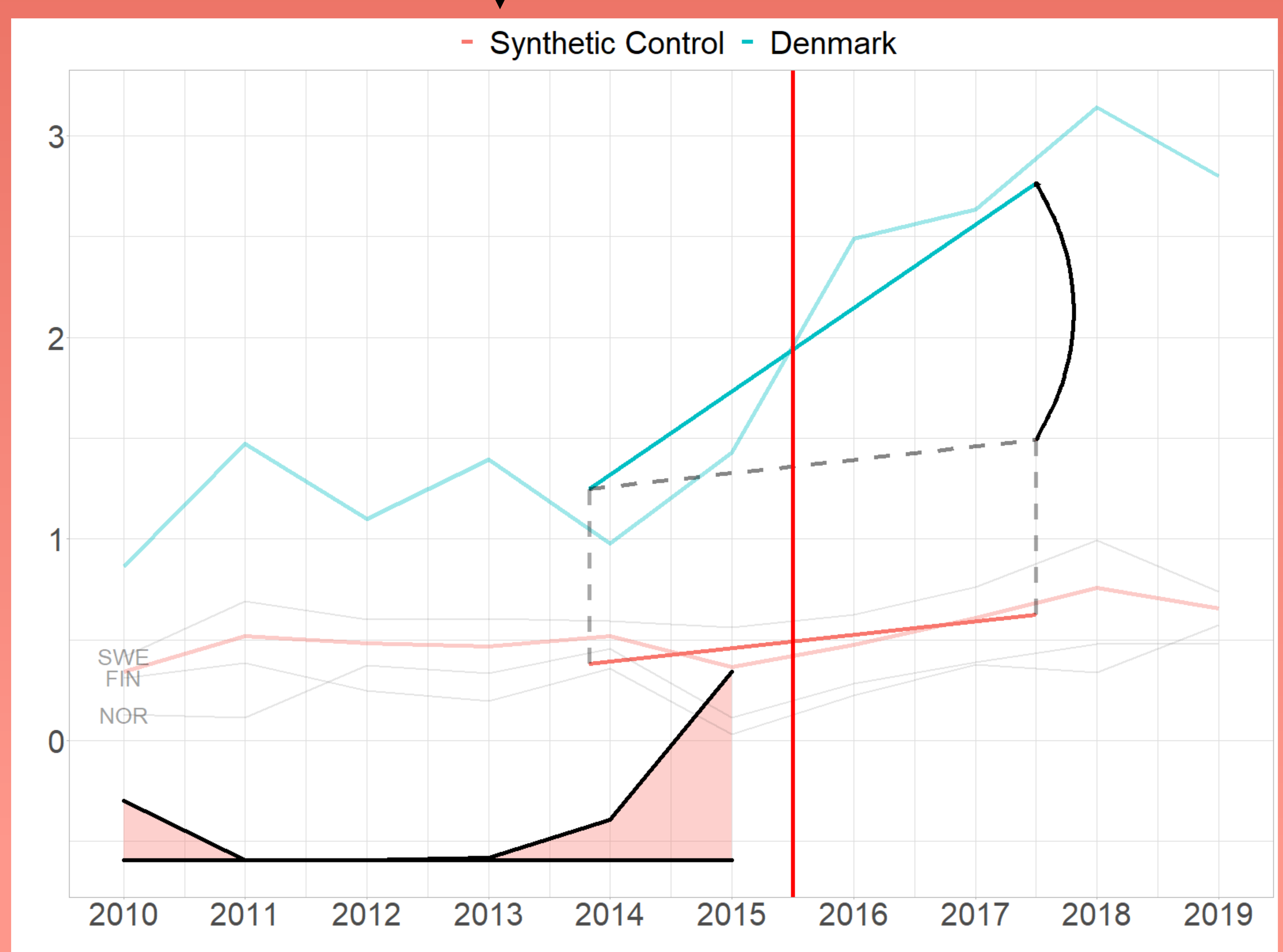


Fig 3: Synthetic DiD on withholding-tax revenue in Denmark vs the other Nordics: Sweden, Norway and Finland

We find no evidence that :

- Foreign equity investment into Denmark dropped relative to the other Nordics
- Danish stock prices dropped around relevant reform events
- Danish companies adjusted dividend policy on the intensive or extensive margin

Tl,dr:

We study the effect of stricter enforcement of the dividend-withholding tax (DWT). We focus on a 2016 Danish reform and compare Denmark to its Nordic neighbors. Before the reform, all countries have strong spikes in stocks on loan centered around the ex-dividend day, consistent with the most popular DWT arbitrage transactions. Post-reform, the spikes in Denmark disappear. We find that stricter enforcement resulted in approx. 1.3 bln USD in annual DWT revenue (130 \% of pre-reform revenue) with no effect on cost of capital and dividend policy. We find similar results in reforms across Europe.

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