EUROPEAN CENTRAL BANK

EUROSYSTEM

Johannes Breckenfelder

European Central Bank

Discussion of "Evaluating Central Bank Purchases of Corporate Bonds Using a Regression Discontinuity Design"

by F. Li, A. Mercatanti, T. Mäkinen and A. Silvestrini

Workshop on the impact of CSPP on financing conditions

May 2, 2018

Roadmap

1. Introduction
   - research question
   - main findings

2. Comments / questions
   - methodology
   - investment grade cut-off
   - CSPP application

3. Summary

1. Introduction

Research question

- Methodological contribution
  - Can we improve a Regression Discontinuity design that is applied to a "**discrete**" discontinuity?

- Empirical contribution
  - Empirical application of the new methodology to the CSPP
  - Estimating the causal effect of the program on spreads for bonds that are eligible for purchase under the CSPP

This paper in a nutshell

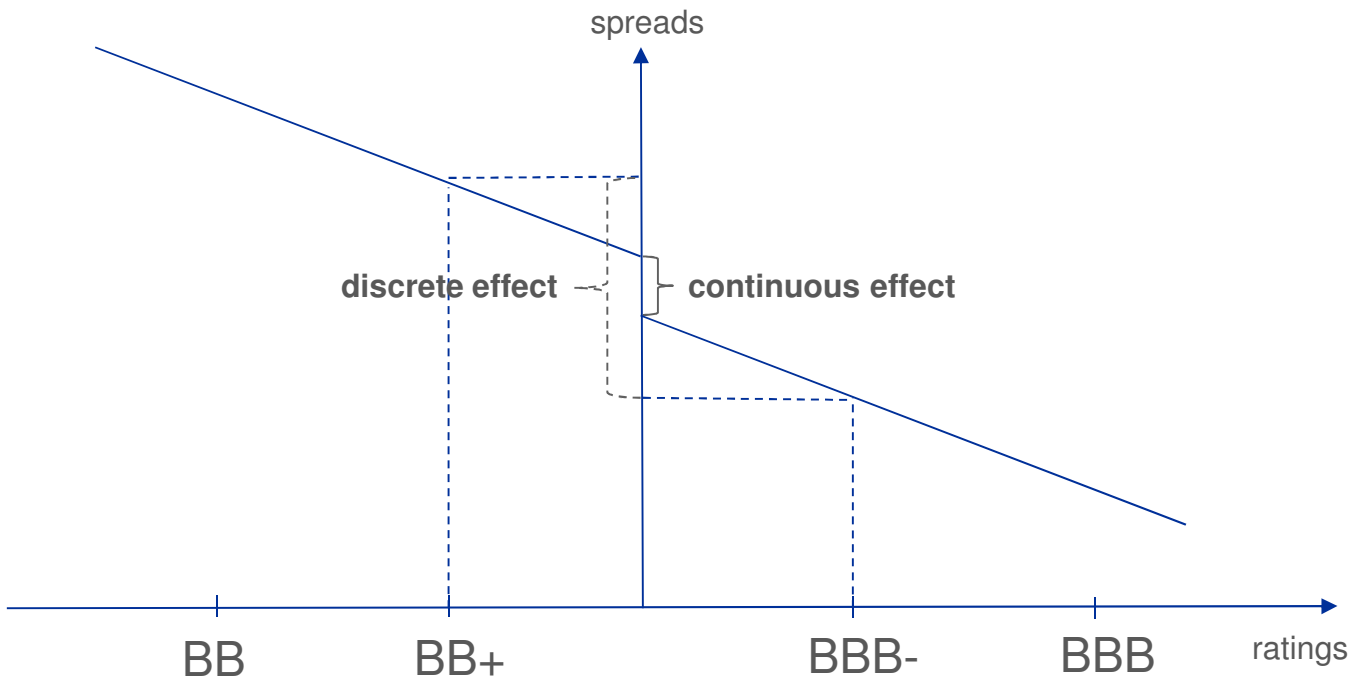
- Develops a new approach to overcome issues with discrete threshold in regression discontinuity design
  - **Issue**: change from BB+ to BBB- (non-investment to investment grade) is a large discrete jump (very different bonds/firms)
  - **Proposed solution**: estimate a continuous "rating" such that the jump is smaller

- Applies the approach to the CSPP
  - Primary market
  - Bloomberg data of newly issued bonds after the announcement of CSPP (March 10, 2016)
  - **Goal**: Estimate the **causal effect** of the CSPP on spreads
  - **Result**: spreads for eligible bonds are about **50 bp** lower

2. Comments / questions

Question 1

- Methodological contribution:
  - Discrete regression discontinuity design (RDD) vs continuous RDD
  - Example using ratings:



Question 1

- **Key challenge:** instead of discrete ratings, calculate more continuous proxies

- The paper proposes propensity scores
  - Probit model with bond characteristics and issuer information: estimated probability that a bond is eligible
  - A score of 0.5 implies a 50/50 chance of being eligible

Question 1

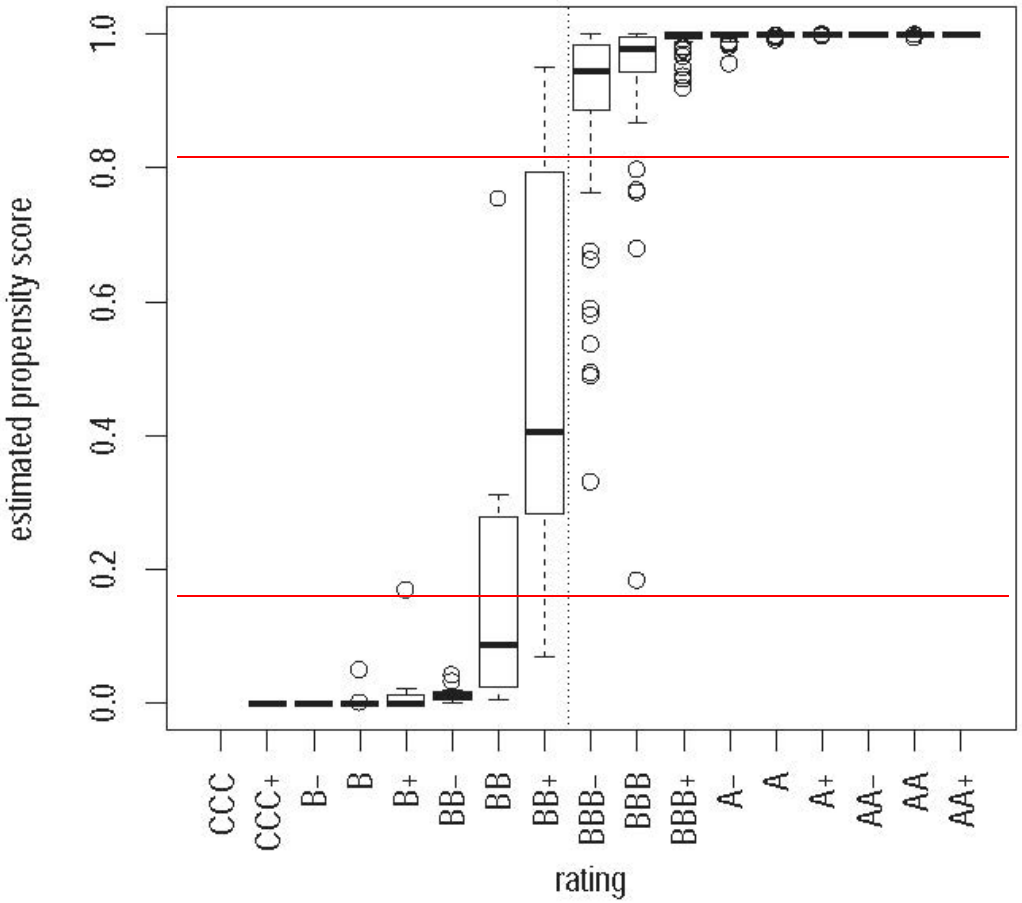
- Missing variables in the probit?
  - eligibility for the refinancing operations;
  - BBB- rating of other bonds issued by the same issuer;
  - below-investment grade issuers usually very different
- What is the benchmark model? (e.g., what would be the results if ratings threshold is used?)

Question 2

- The BBB- cut-off is an **important threshold**
- The paper states that every other criterion of being eligible is controlled for, **except the rating**
- Several possible confounding effects:
  - Investment grade rating needed, e.g., for a bond to be included in certain funds;
  - or for a bond to be used as collateral
- How to disentangle these effects from CSPP eligibility?
- Unanticipated? Other Eurosystem purchase programs had the rating requirement (e.g., PSPP)

Question 3

- CSPP application
  - Propensity score range: (0.5 – h, 0.5 + h); range: h = 0.32, i.e. (0.18, 0.82)



Is this less ”discrete”?

Ratings include B+, BB, BB+, BBB- and BBB

Low number of bonds: 23

From how many issuers? 5?

Question 4

- Sample period: March 10, 2016 (announcement) to Sept 30, 2017
- Primary market prices
- 899 bonds that fulfill the criteria of the CSPP, except for the rating
- 591 bonds matched with balance sheet info
- Propensity score range used (0.18, 0.82): 23 bonds
- How general is the result? Causality?

3. Summary

Concluding remarks

- Contribution of the paper is twofold:
  - Methodological (new RDD)
  - Empirical (CSPP impact analysis)

- Authors might want to make clear what they do:
  - The title reads like a paper on CSPP
  - But, the paper reads more like a methodological contribution

- A nice approach that could be developed further:
  - Use pre-announcement information/bonds (diff-in-diff?)
  - Develop a different “continuous” variable
    - E.g., Abidi and Flores (2018, ECB WP), exploit differences in ratings