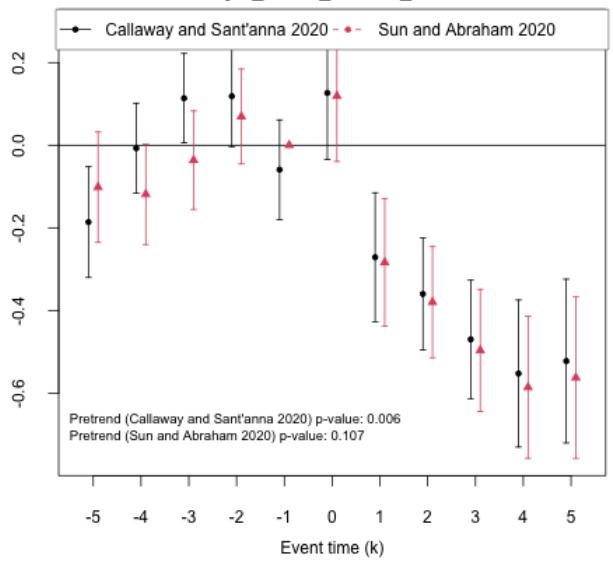
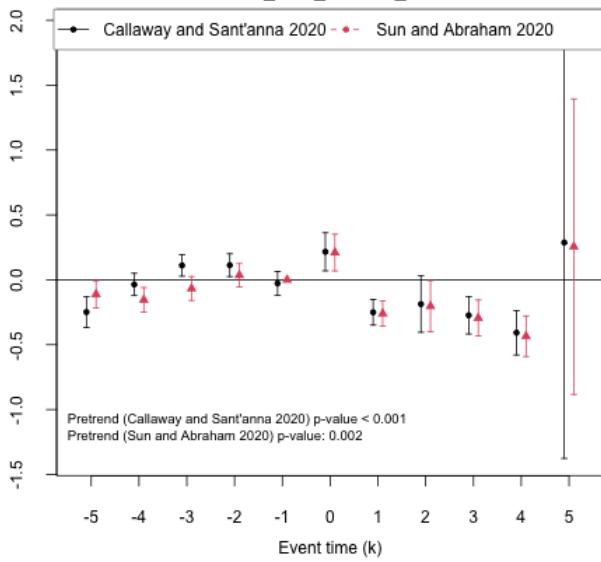
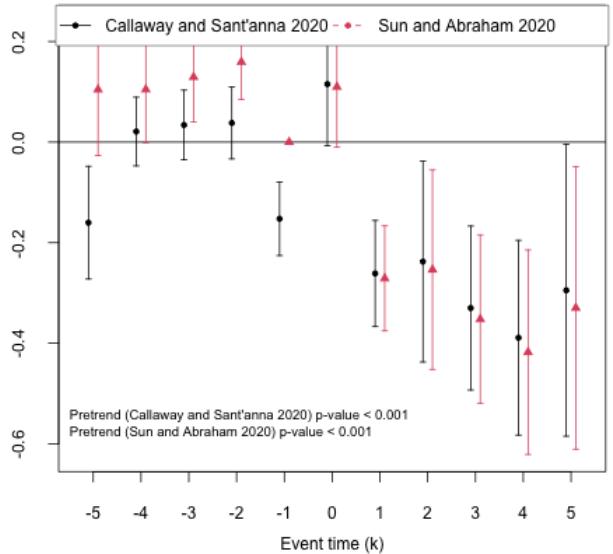
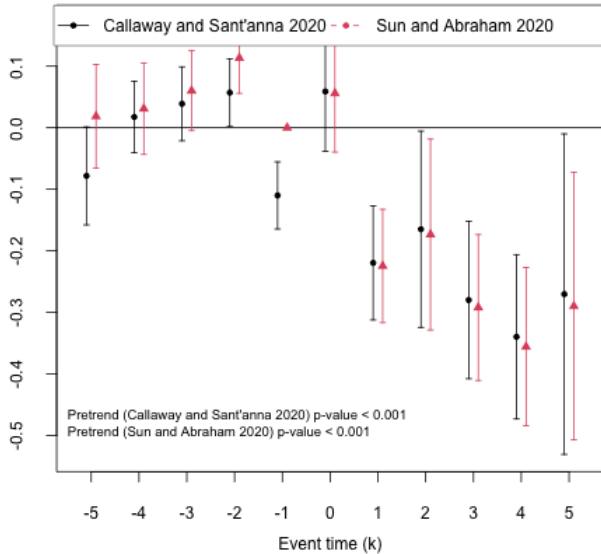


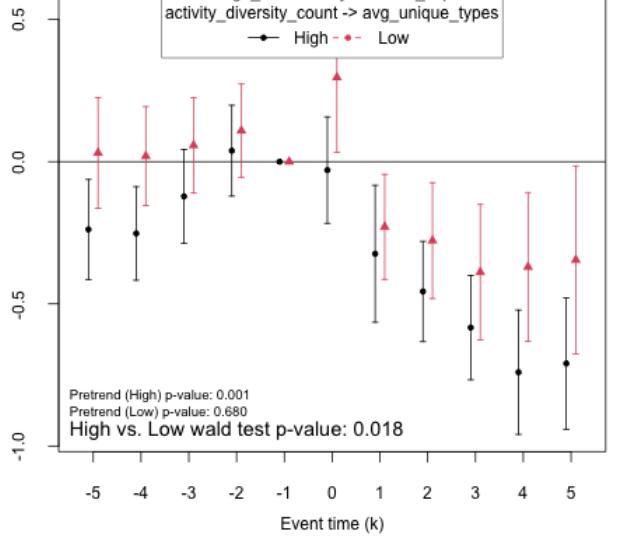
**major\_minor\_release\_count****overall\_new\_release\_count****pull\_request\_merged****pull\_request\_opened**

### major\_minor\_release\_count rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
activity\_diversity\_count -> avg\_unique\_types

● High ▲ Low

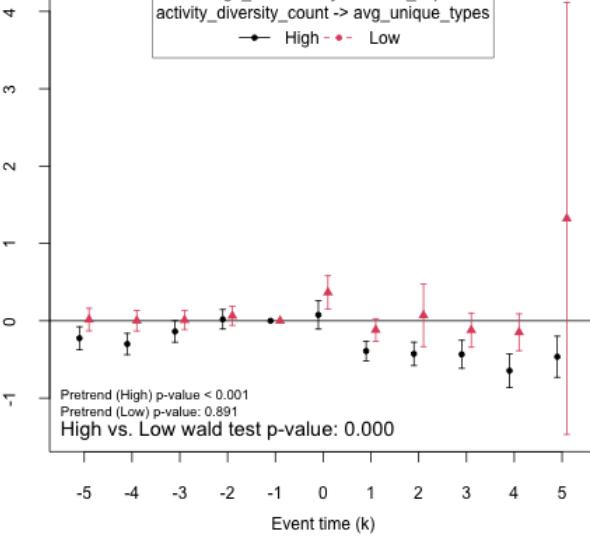


### overall\_new\_release\_count rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
activity\_diversity\_count -> avg\_unique\_types

● High ▲ Low

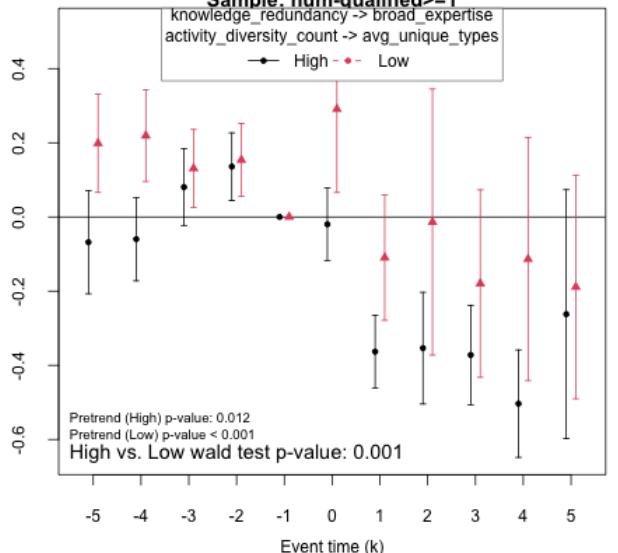


### pull\_request\_merged rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
activity\_diversity\_count -> avg\_unique\_types

● High ▲ Low

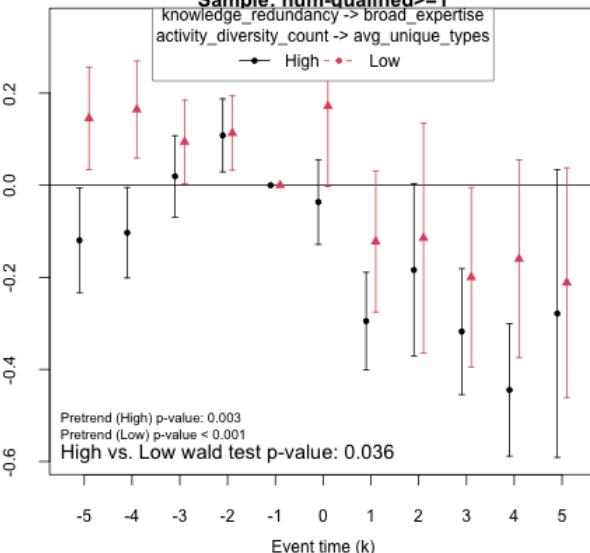


### pull\_request\_opened rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
activity\_diversity\_count -> avg\_unique\_types

● High ▲ Low

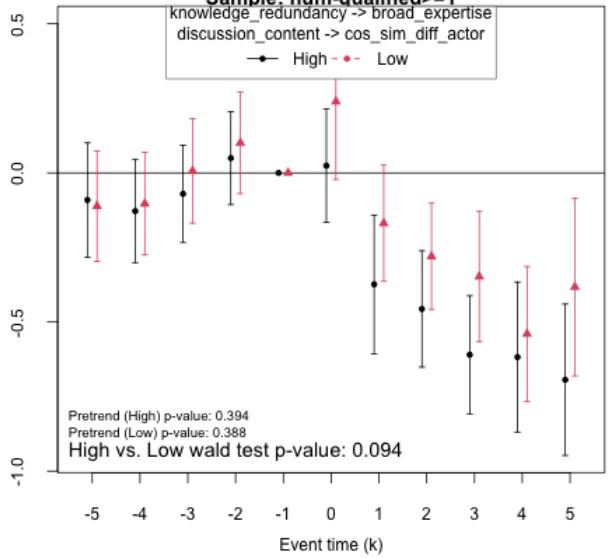


### major\_minor\_release\_count rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
discussion\_content -> cos\_sim\_diff\_actor

● High ▲ Low

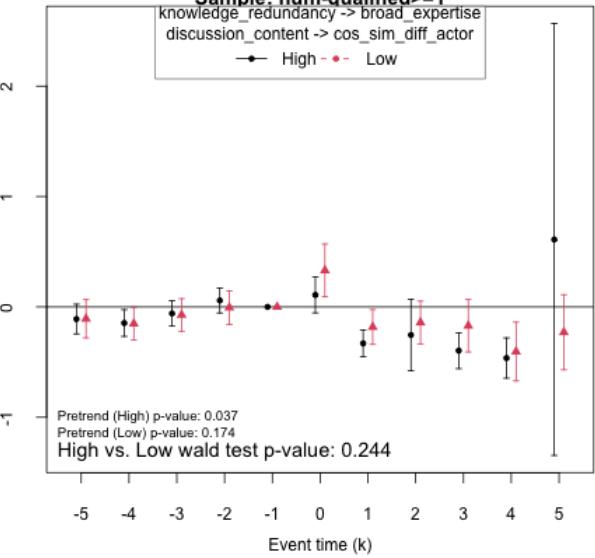


### overall\_new\_release\_count rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
discussion\_content -> cos\_sim\_diff\_actor

● High ▲ Low

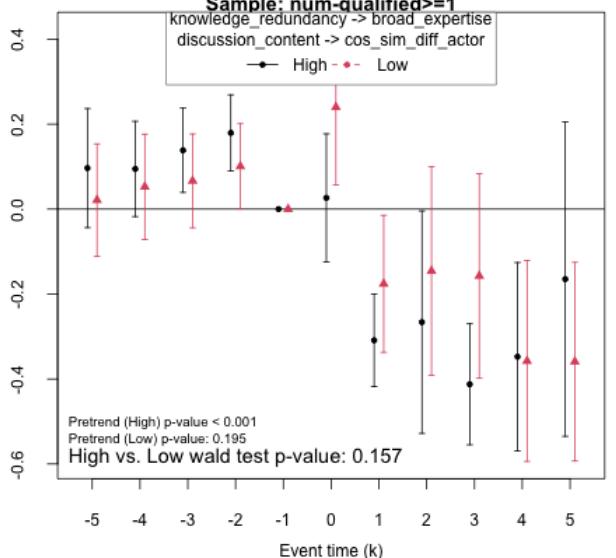


### pull\_request\_merged rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
discussion\_content -> cos\_sim\_diff\_actor

● High ▲ Low

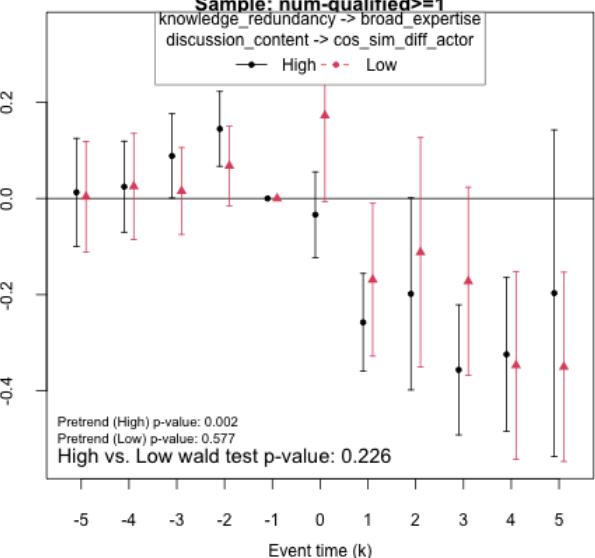


### pull\_request\_opened rolling5

**Sample: num-qualified>=1**

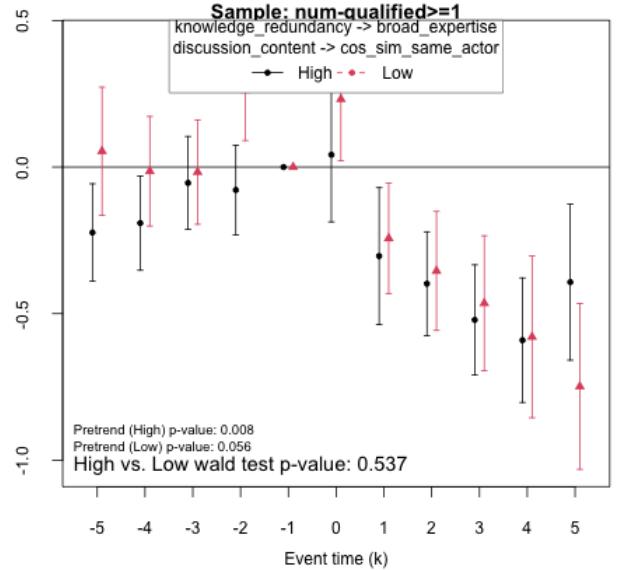
knowledge\_redundancy -> broad\_expertise  
discussion\_content -> cos\_sim\_diff\_actor

● High ▲ Low



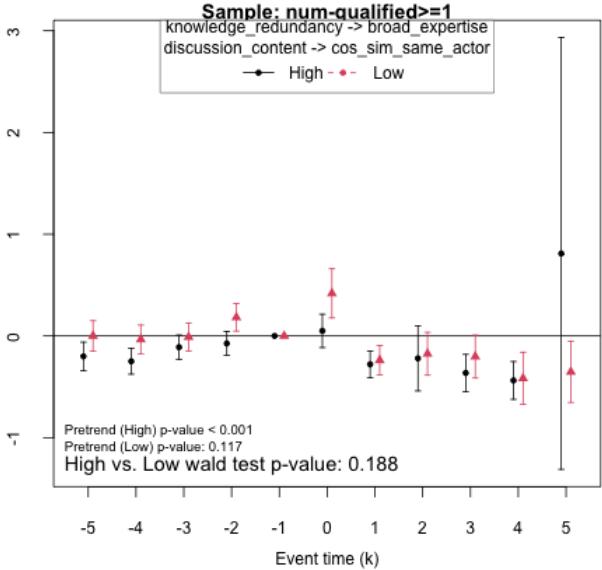
### major\_minor\_release\_count rolling5

**Sample: num-qualified>=1**



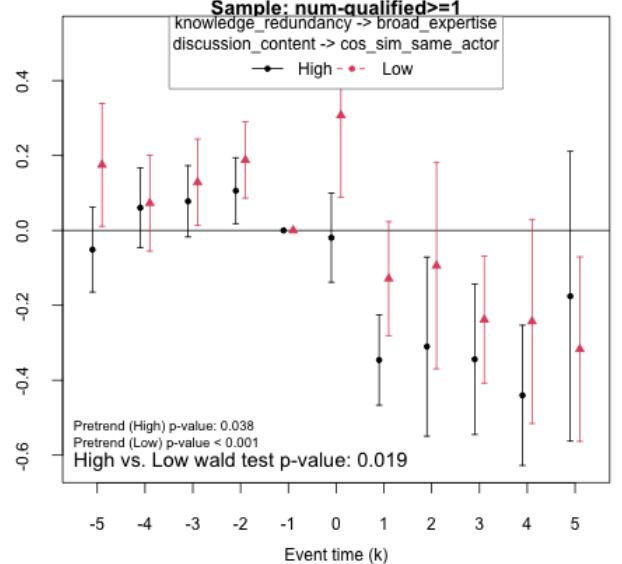
### overall\_new\_release\_count rolling5

**Sample: num-qualified>=1**



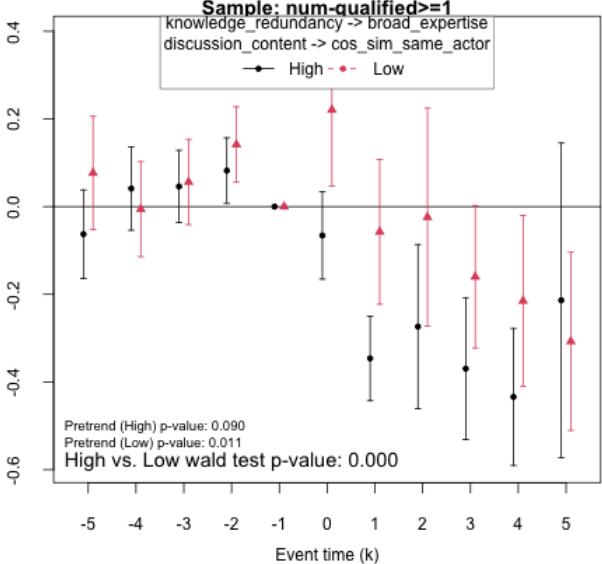
### pull\_request\_merged rolling5

**Sample: num-qualified>=1**



### pull\_request\_opened rolling5

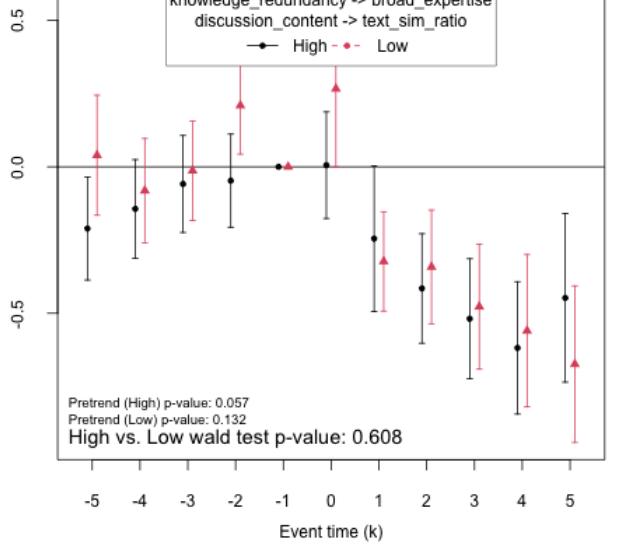
**Sample: num-qualified>=1**



**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

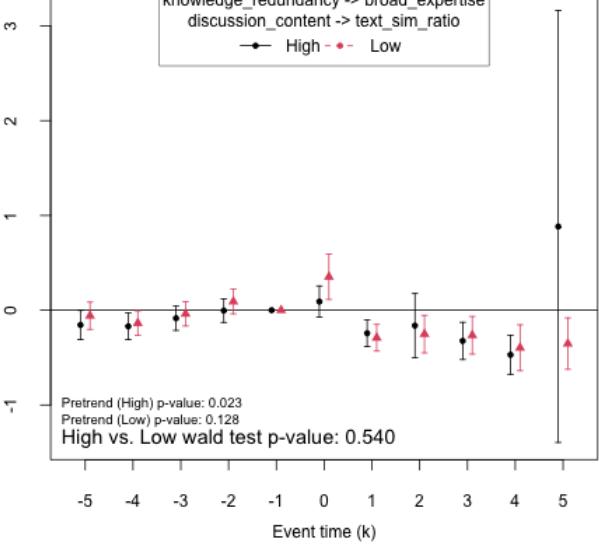
knowledge\_redundancy -> broad\_expertise  
 discussion\_content -> text\_sim\_ratio

- High
- Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

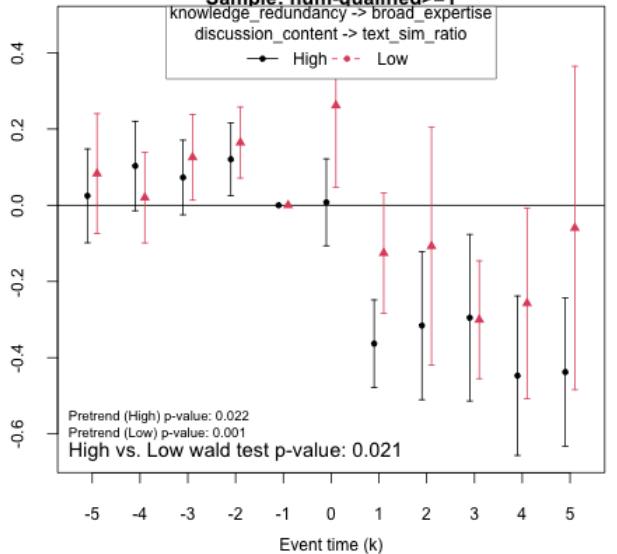
knowledge\_redundancy -> broad\_expertise  
 discussion\_content -> text\_sim\_ratio

- High
- Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

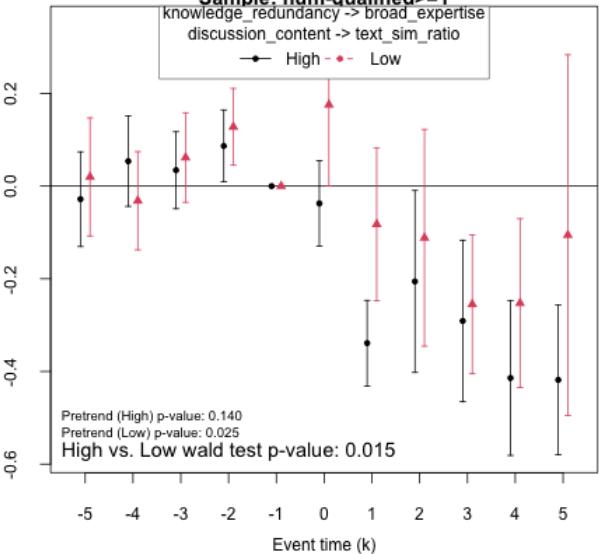
knowledge\_redundancy -> broad\_expertise  
 discussion\_content -> text\_sim\_ratio

- High
- Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**

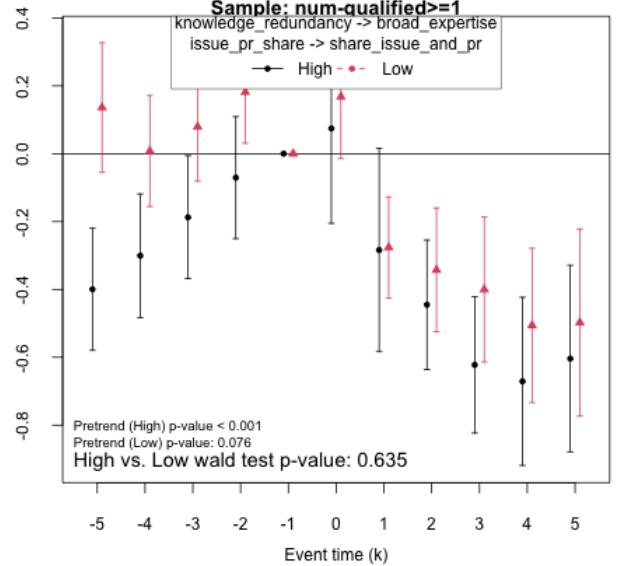
knowledge\_redundancy -> broad\_expertise  
 discussion\_content -> text\_sim\_ratio

- High
- Low



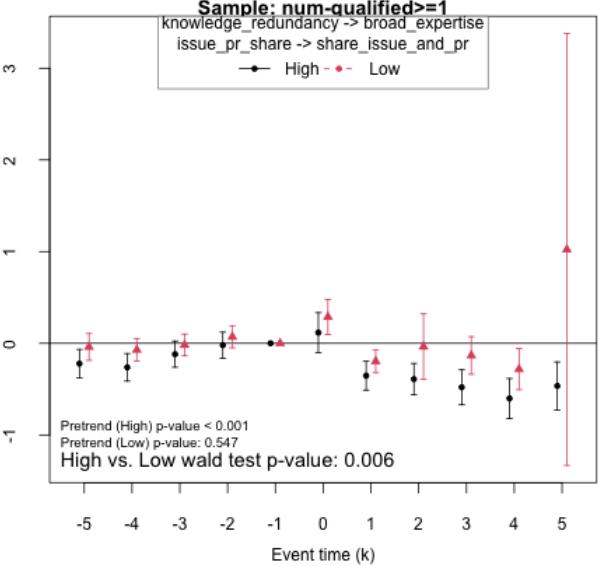
### major\_minor\_release\_count rolling5

Sample: num-qualified>=1



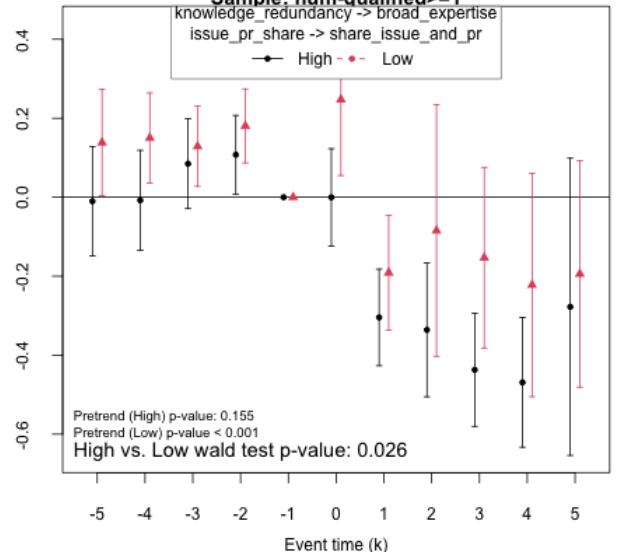
### overall\_new\_release\_count rolling5

Sample: num-qualified>=1



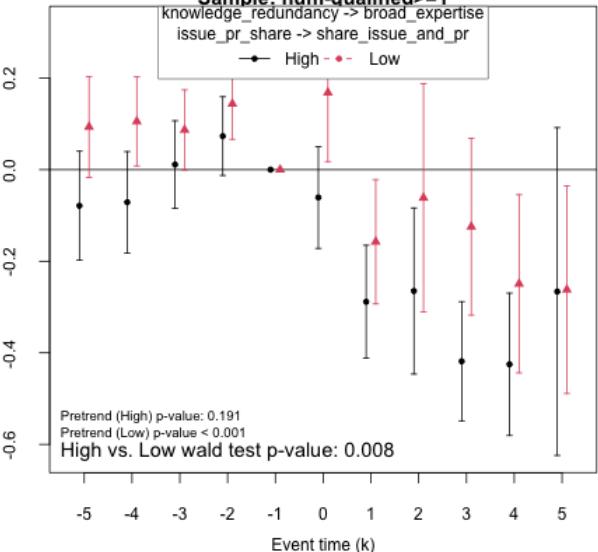
### pull\_request\_merged rolling5

Sample: num-qualified>=1



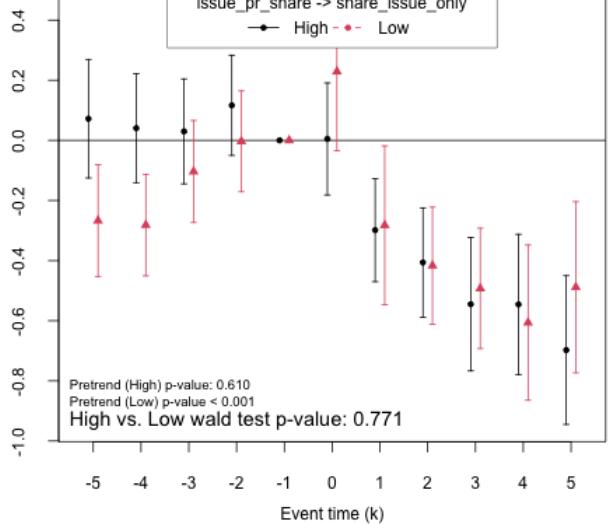
### pull\_request\_opened rolling5

Sample: num-qualified>=1

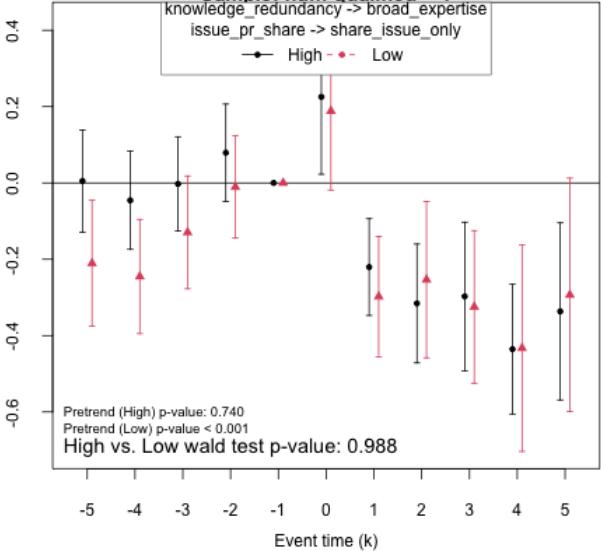


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

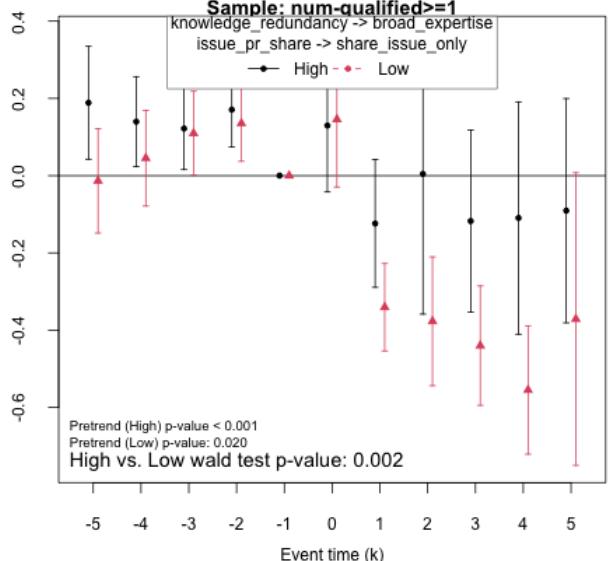
knowledge\_redundancy -> broad\_expertise  
 issue\_pr\_share -> share\_issue\_only  
 ● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

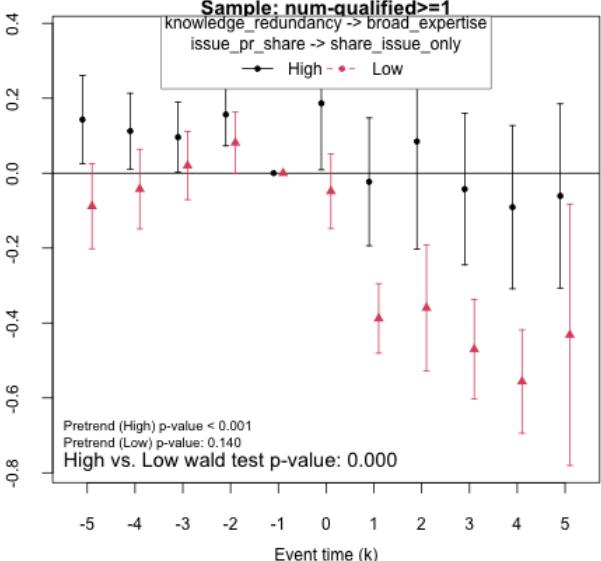
knowledge\_redundancy -> broad\_expertise  
 issue\_pr\_share -> share\_issue\_only  
 ● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
 issue\_pr\_share -> share\_issue\_only  
 ● High ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**

knowledge\_redundancy -> broad\_expertise  
 issue\_pr\_share -> share\_issue\_only  
 ● High ▲ Low

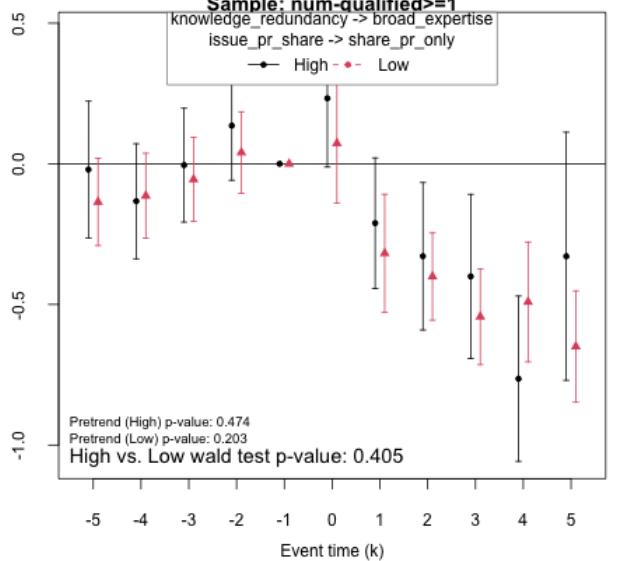


### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> broad\_expertise  
issue\_pr\_share -> share\_pr\_only

● High ▲ Low

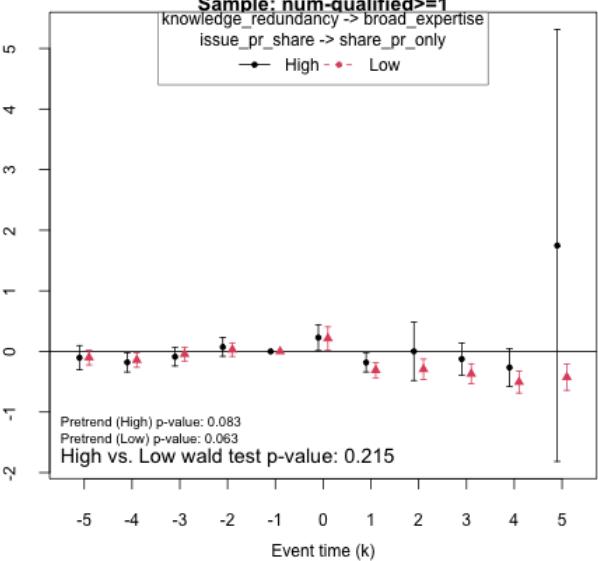


### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> broad\_expertise  
issue\_pr\_share -> share\_pr\_only

● High ▲ Low

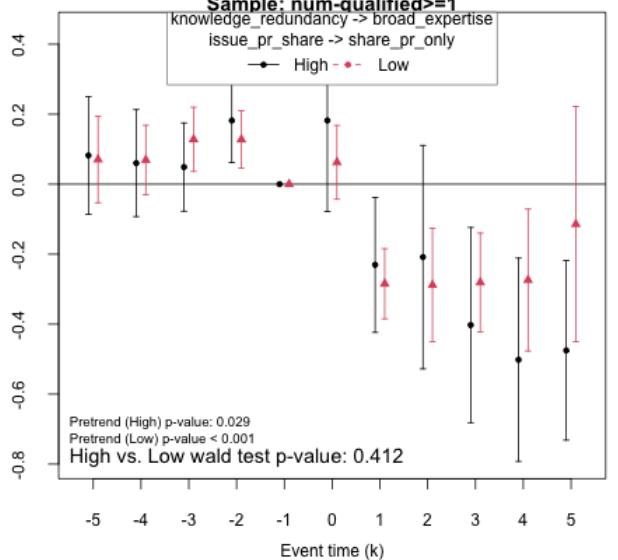


### pull\_request\_merged rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> broad\_expertise  
issue\_pr\_share -> share\_pr\_only

● High ▲ Low

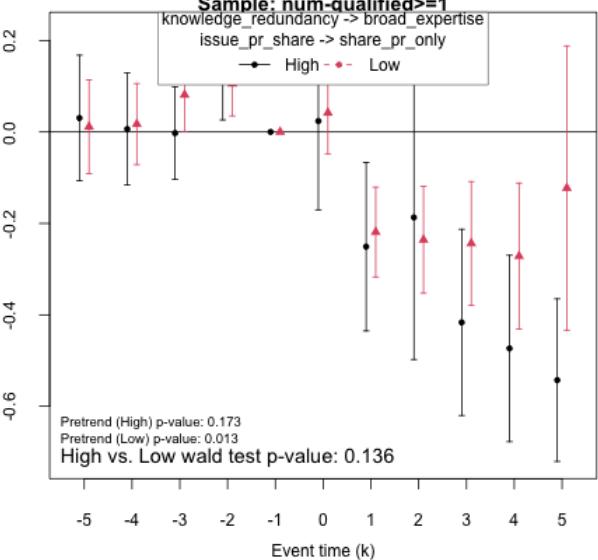


### pull\_request\_opened rolling5

Sample: num-qualified>=1

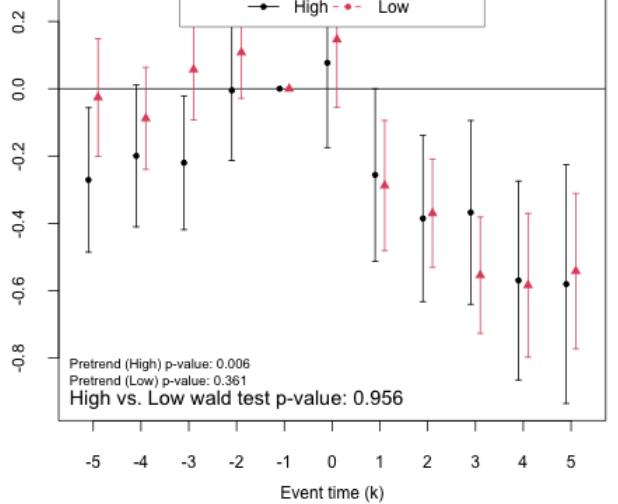
knowledge\_redundancy -> broad\_expertise  
issue\_pr\_share -> share\_pr\_only

● High ▲ Low

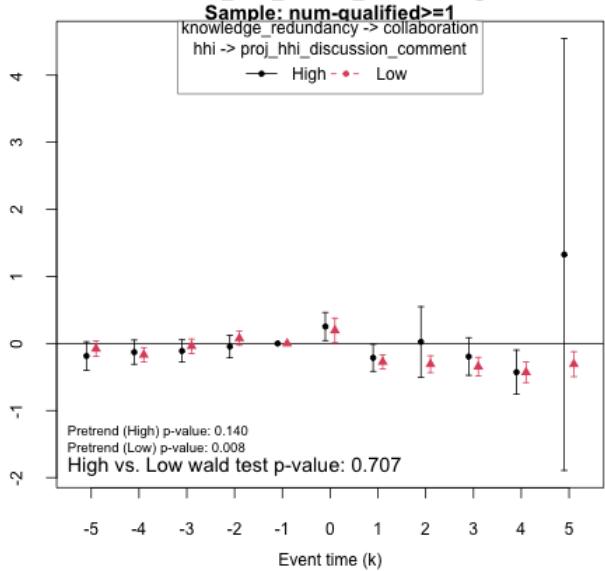


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

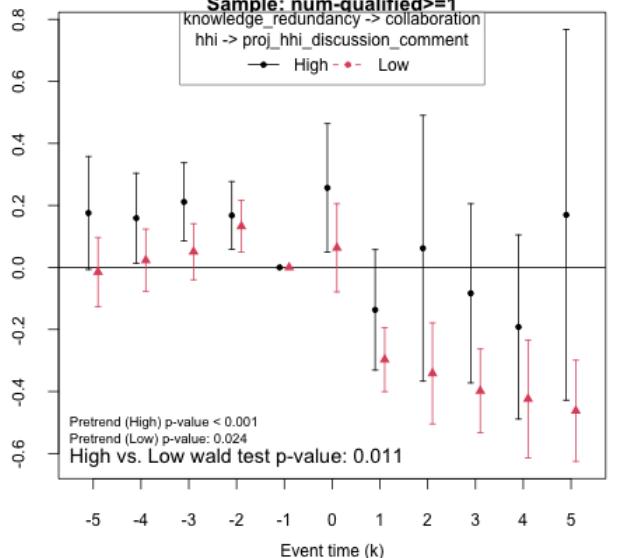
knowledge\_redundancy -> collaboration  
 $hh_i \rightarrow proj\_hh_i\_discussion\_comment$   
● High   ● Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

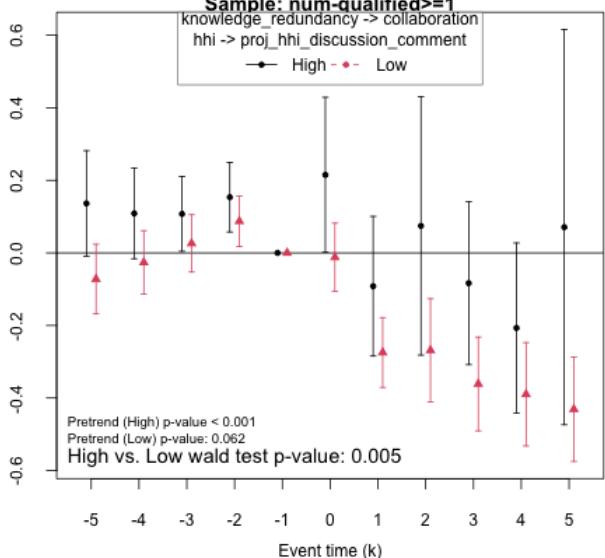
knowledge\_redundancy -> collaboration  
 $hh_i \rightarrow proj\_hh_i\_discussion\_comment$   
● High   ● Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

knowledge\_redundancy -> collaboration  
 $hh_i \rightarrow proj\_hh_i\_discussion\_comment$   
● High   ● Low

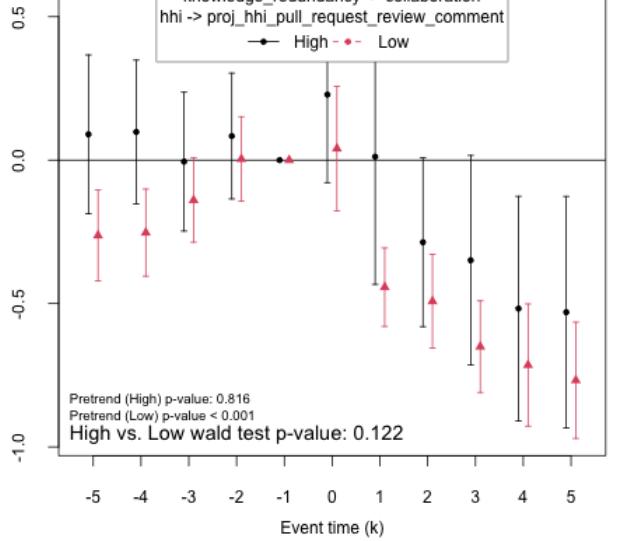
**pull\_request\_opened rolling5****Sample: num-qualified>=1**

knowledge\_redundancy -> collaboration  
 $hh_i \rightarrow proj\_hh_i\_discussion\_comment$   
● High   ● Low

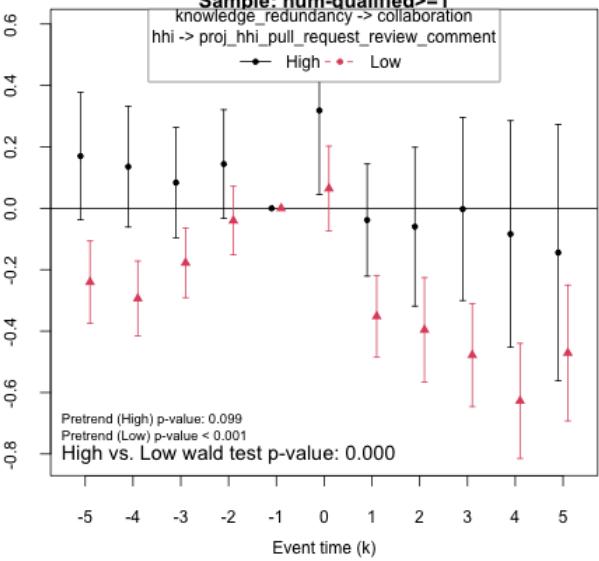


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**knowledge\_redundancy->collaboration  
hhicr -> proj\_hhicr\_pull\_request\_review\_comment

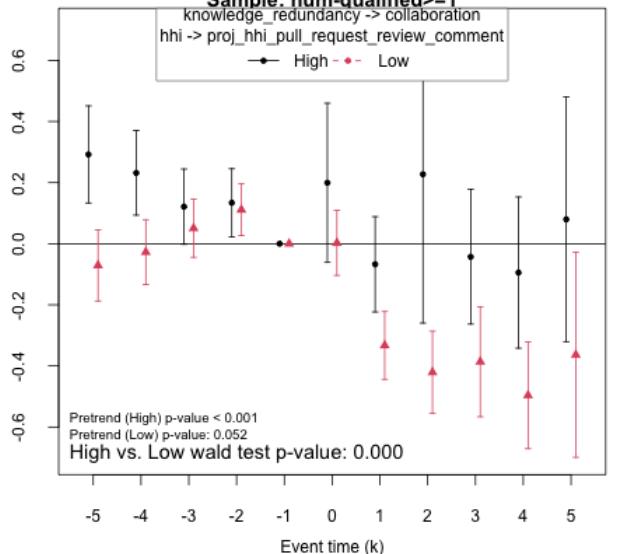
● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**knowledge\_redundancy->collaboration  
hhicr -> proj\_hhicr\_pull\_request\_review\_comment

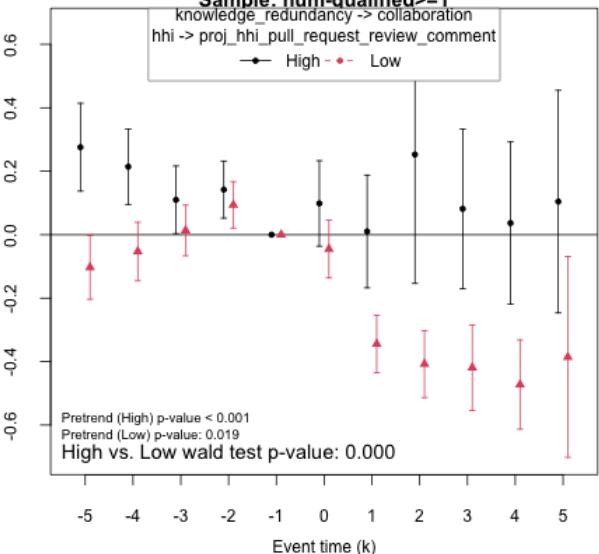
● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**knowledge\_redundancy->collaboration  
hhicr -> proj\_hhicr\_pull\_request\_review\_comment

● High ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**knowledge\_redundancy->collaboration  
hhicr -> proj\_hhicr\_pull\_request\_review\_comment

● High ▲ Low

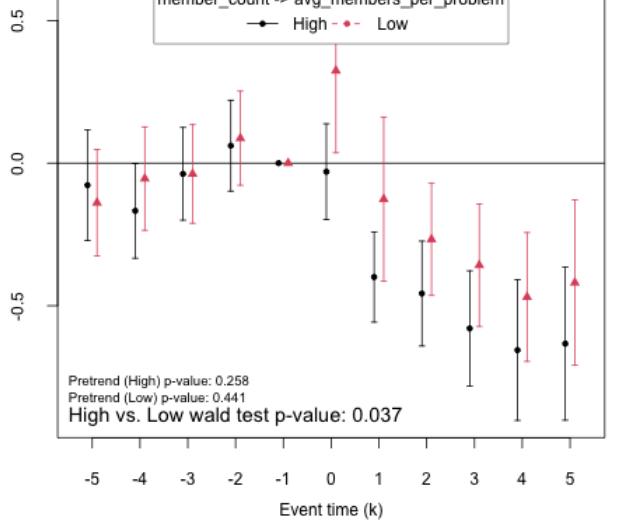


### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> collaboration  
member\_count -> avg\_members\_per\_problem

● High ▲ Low

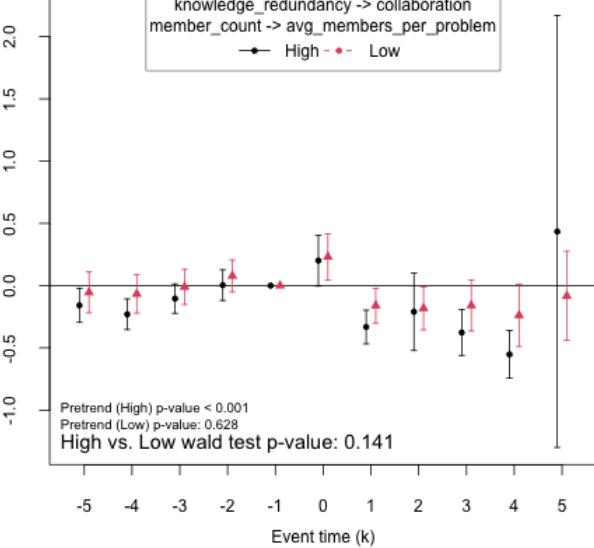


### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> collaboration  
member\_count -> avg\_members\_per\_problem

● High ▲ Low

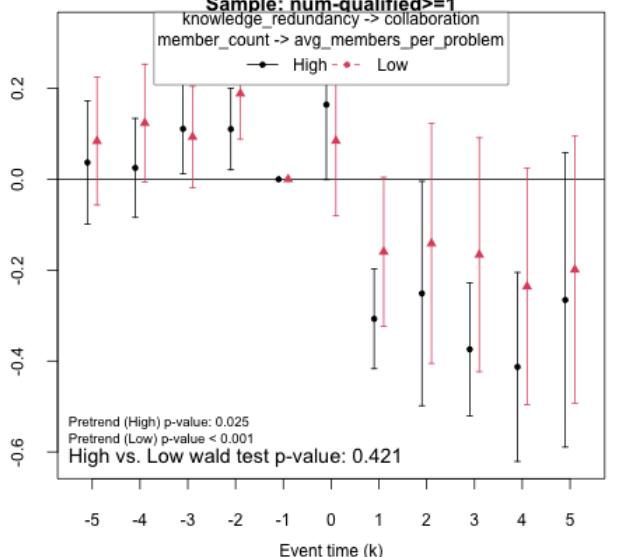


### pull\_request\_merged rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> collaboration  
member\_count -> avg\_members\_per\_problem

● High ▲ Low

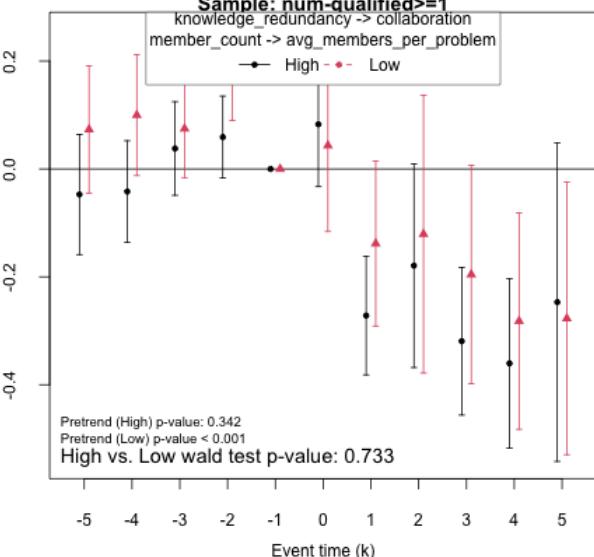


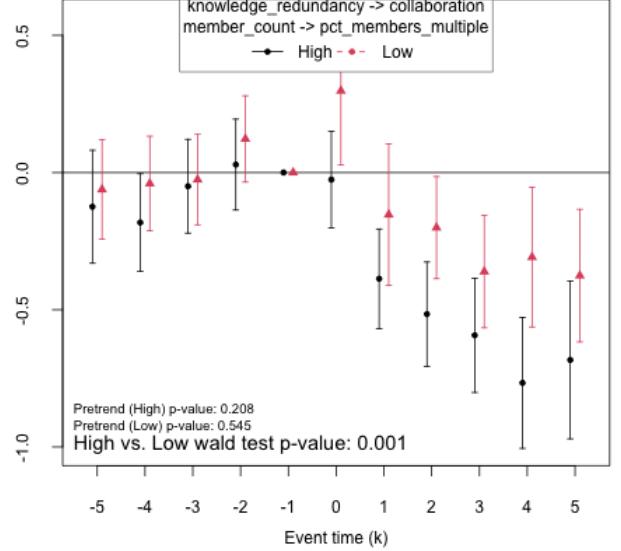
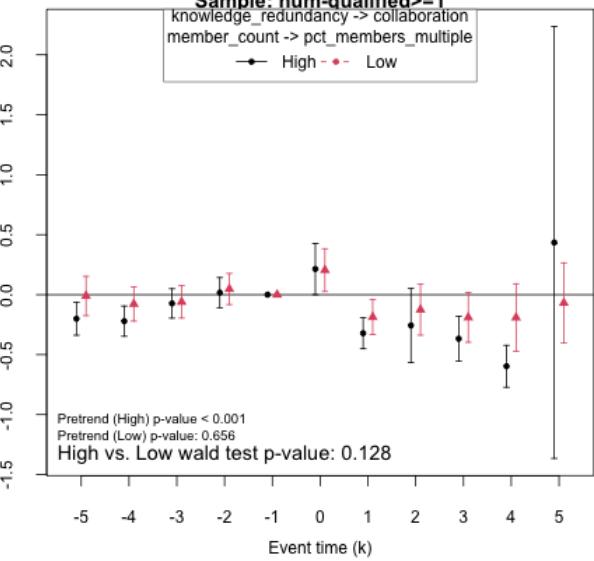
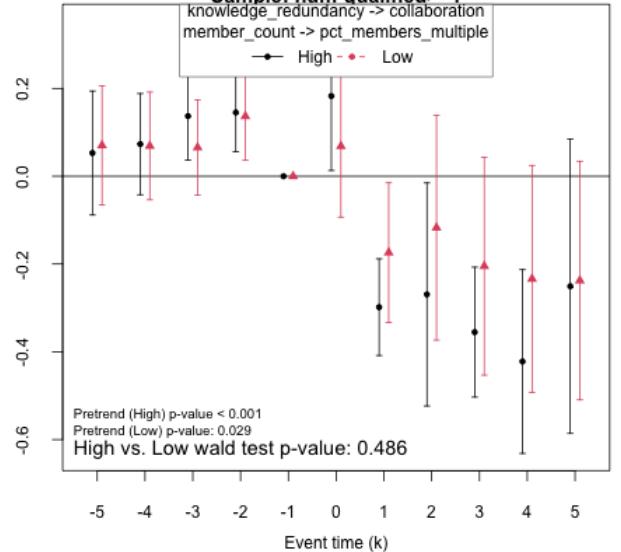
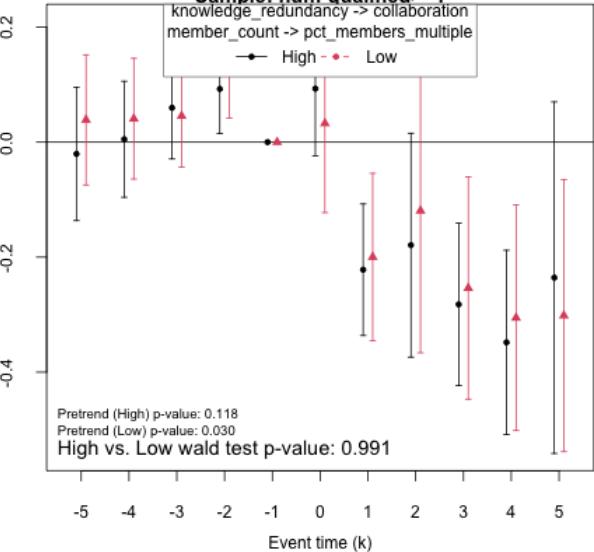
### pull\_request\_opened rolling5

Sample: num-qualified>=1

knowledge\_redundancy -> collaboration  
member\_count -> avg\_members\_per\_problem

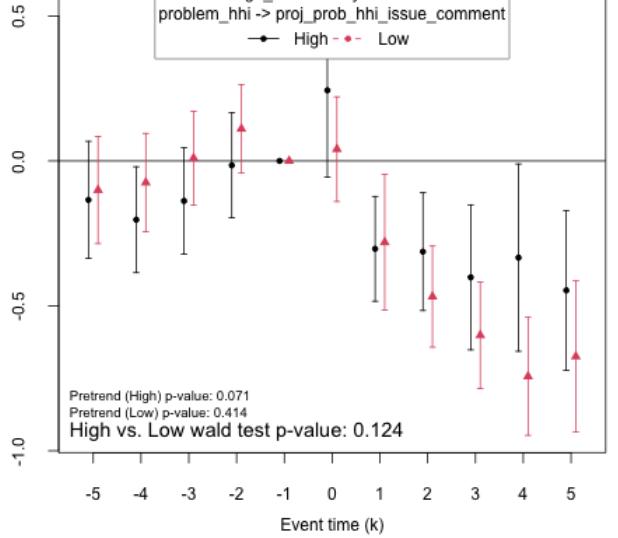
● High ▲ Low



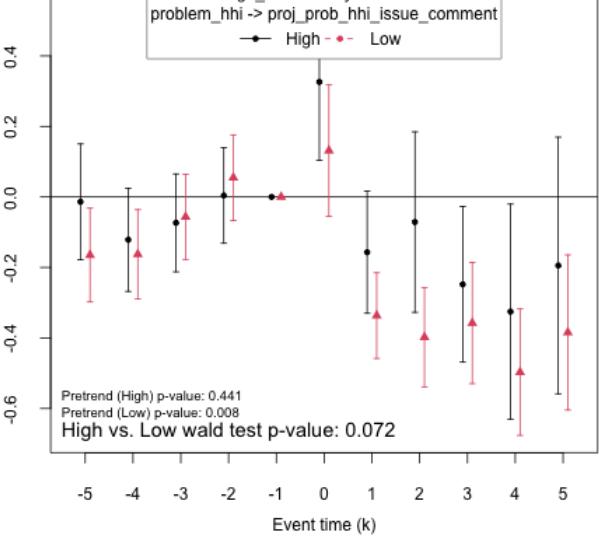
**major\_minor\_release\_count rolling5****Sample: num-qualified>=1****overall\_new\_release\_count rolling5****Sample: num-qualified>=1****pull\_request\_merged rolling5****Sample: num-qualified>=1****pull\_request\_opened rolling5****Sample: num-qualified>=1**

**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

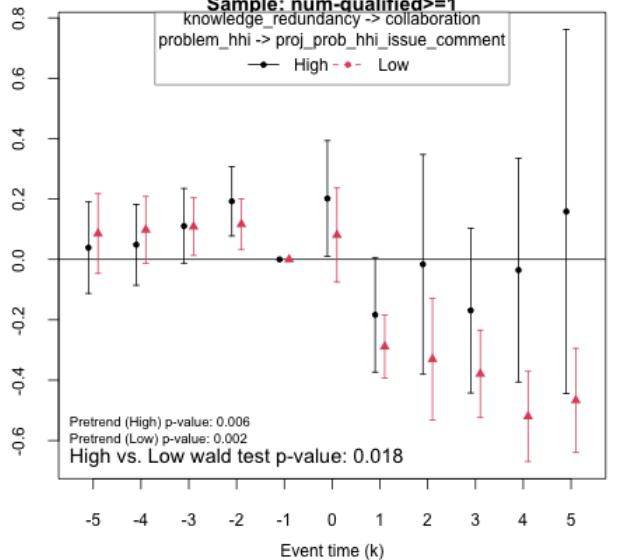
knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_issue\_comment  
● High - ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

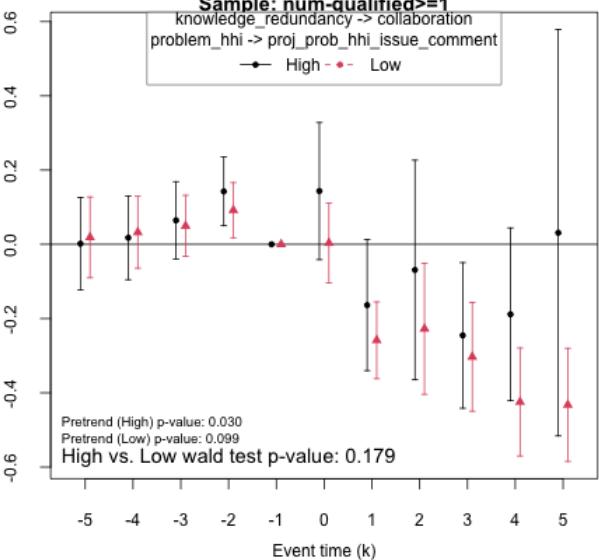
knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_issue\_comment  
● High - ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_issue\_comment  
● High - ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**

knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_issue\_comment  
● High - ▲ Low

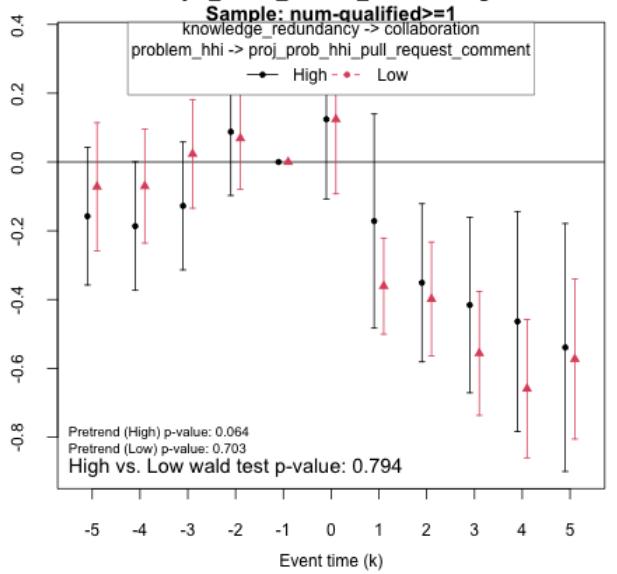


### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_pull\_request\_comment

● High - ▲ Low

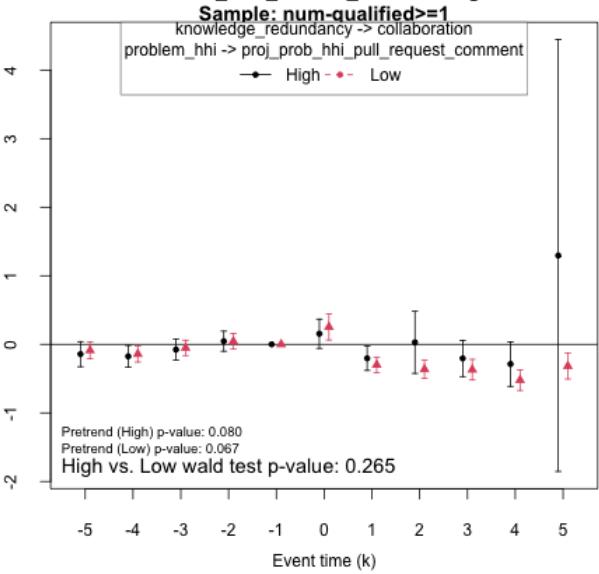


### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_pull\_request\_comment

● High - ▲ Low

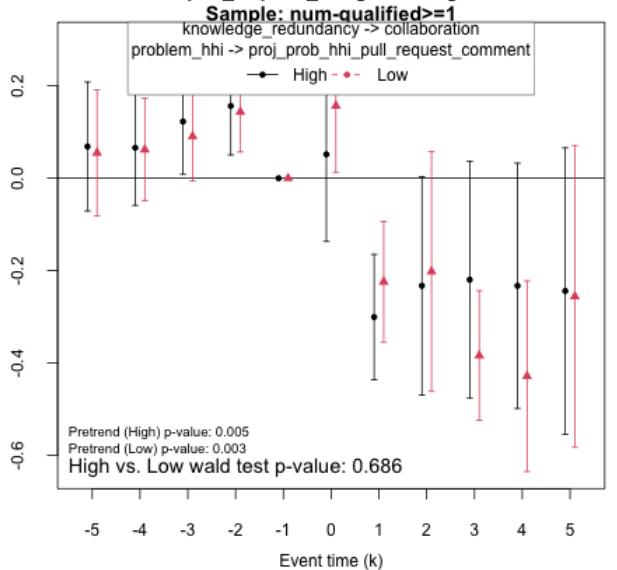


### pull\_request\_merged rolling5

Sample: num-qualified>=1

knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_pull\_request\_comment

● High - ▲ Low

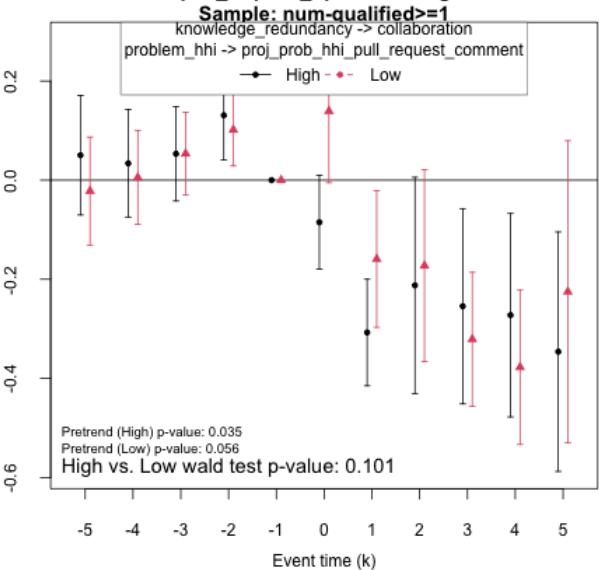


### pull\_request\_opened rolling5

Sample: num-qualified>=1

knowledge\_redundancy->collaboration  
problem\_hhi->proj\_prob\_hhi\_pull\_request\_comment

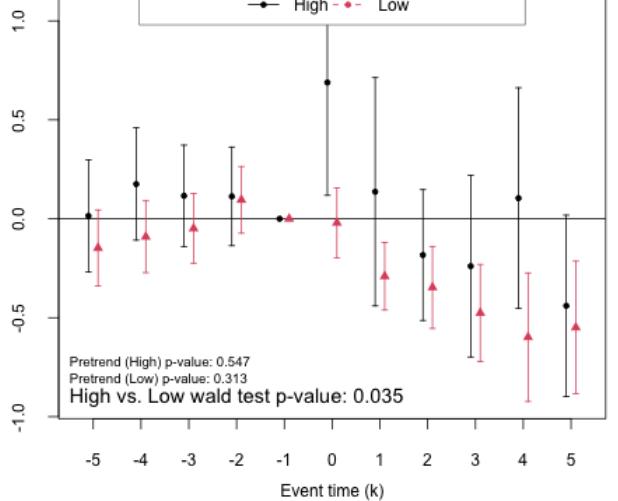
● High - ▲ Low



### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

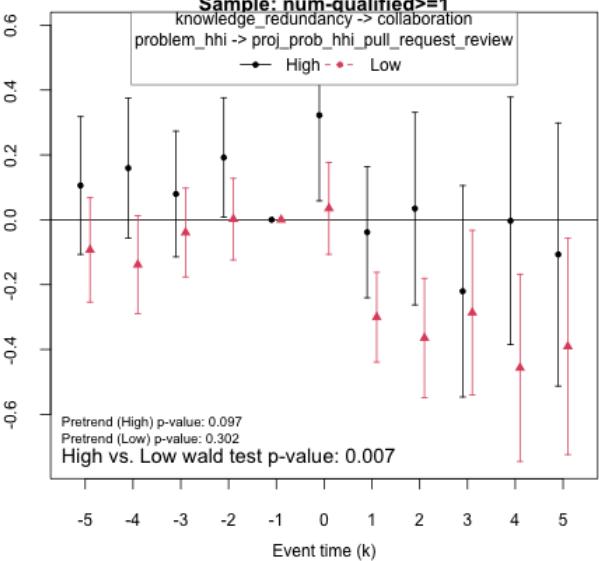
knowledge\_redundancy->collaboration  
 problem\_hhi->proj\_prob\_hhi\_pull\_request\_review  
 ● High ▲ Low



### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

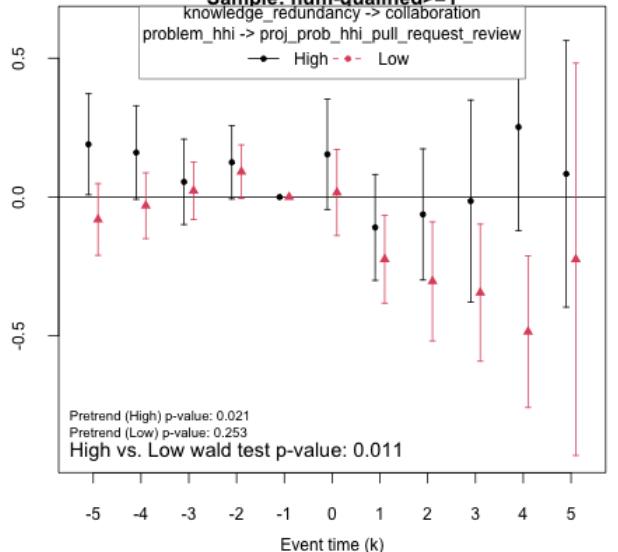
knowledge\_redundancy->collaboration  
 problem\_hhi->proj\_prob\_hhi\_pull\_request\_review  
 ● High ▲ Low



### pull\_request\_merged rolling5

Sample: num-qualified>=1

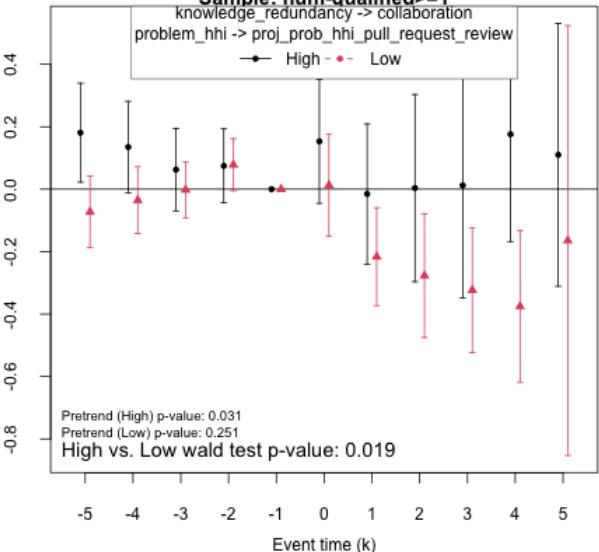
knowledge\_redundancy->collaboration  
 problem\_hhi->proj\_prob\_hhi\_pull\_request\_review  
 ● High ▲ Low



### pull\_request\_opened rolling5

Sample: num-qualified>=1

knowledge\_redundancy->collaboration  
 problem\_hhi->proj\_prob\_hhi\_pull\_request\_review  
 ● High ▲ Low



### major\_minor\_release\_count rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy->collaboration

problem\_hhi -> proj\_prob\_hhi\_pull\_request\_review\_comment

● High ▲ Low

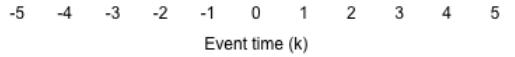
0.0

-0.5

Pretrend (High) p-value: 0.912

Pretrend (Low) p-value: 0.019

High vs. Low wald test p-value: 0.013



Event time (k)

### overall\_new\_release\_count rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy->collaboration

problem\_hhi -> proj\_prob\_hhi\_pull\_request\_review\_comment

● High ▲ Low

0.4

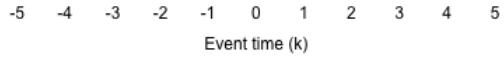
0.0

-0.4

Pretrend (High) p-value: 0.332

Pretrend (Low) p-value < 0.001

High vs. Low wald test p-value: 0.001



Event time (k)

### pull\_request\_merged rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy->collaboration

problem\_hhi -> proj\_prob\_hhi\_pull\_request\_review\_comment

● High ▲ Low

0.4

0.0

Pretrend (High) p-value < 0.001

Pretrend (Low) p-value: 0.013

High vs. Low wald test p-value: 0.020



Event time (k)

### pull\_request\_opened rolling5

**Sample: num-qualified>=1**

knowledge\_redundancy->collaboration

problem\_hhi -> proj\_prob\_hhi\_pull\_request\_review\_comment

● High ▲ Low

0.4

0.0

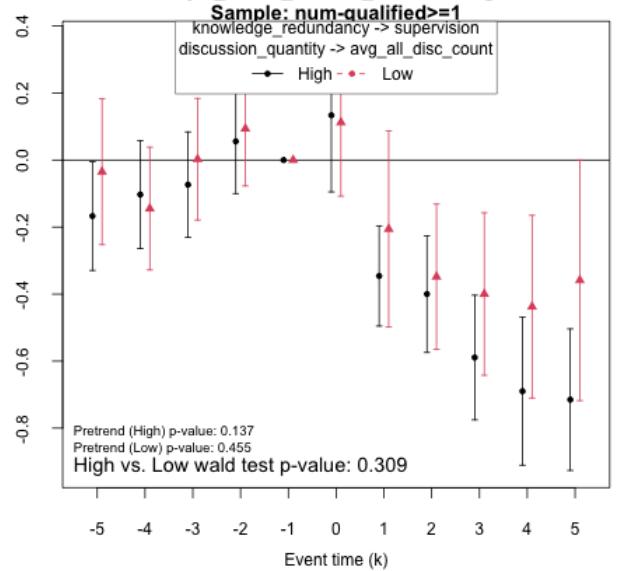
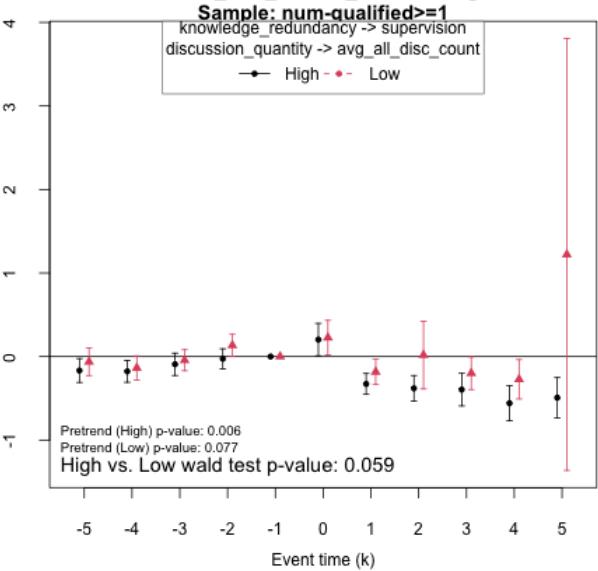
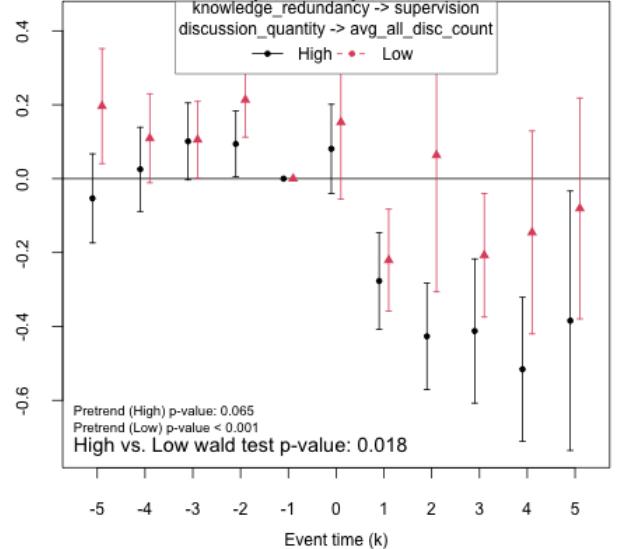
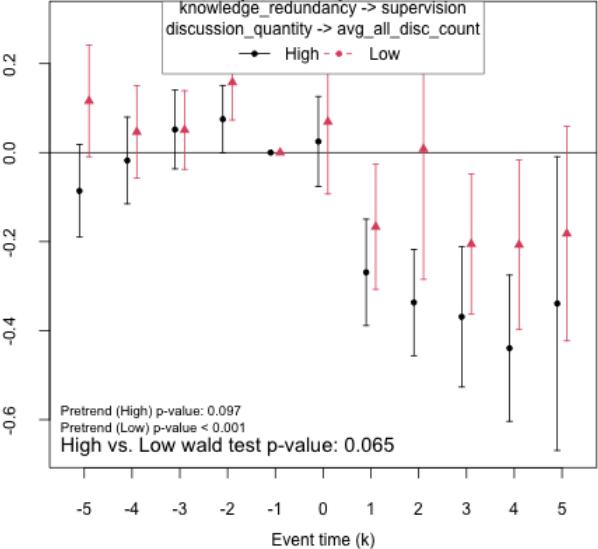
Pretrend (High) p-value < 0.001

Pretrend (Low) p-value: 0.016

High vs. Low wald test p-value: 0.004

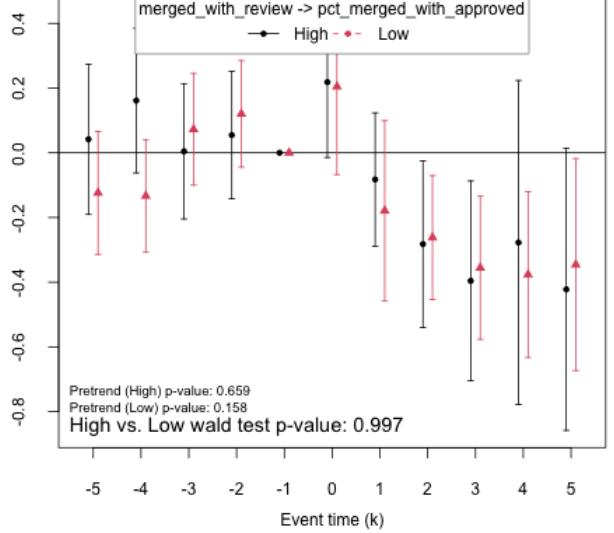


Event time (k)

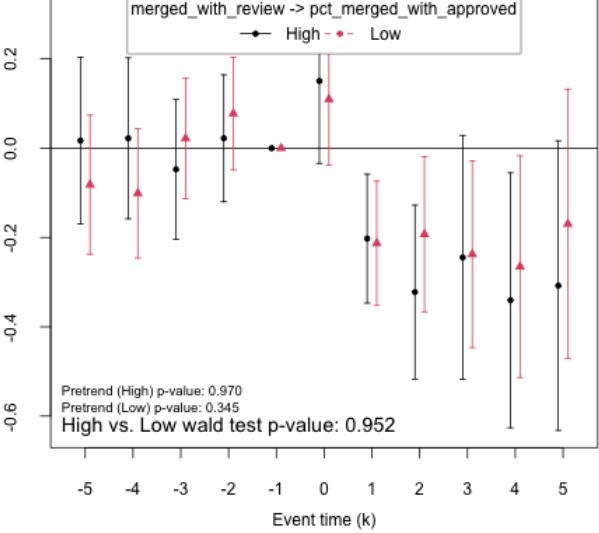
**major\_minor\_release\_count rolling5****Sample: num-qualified>=1****overall\_new\_release\_count rolling5****Sample: num-qualified>=1****pull\_request\_merged rolling5****Sample: num-qualified>=1****pull\_request\_opened rolling5****Sample: num-qualified>=1**

**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_approved

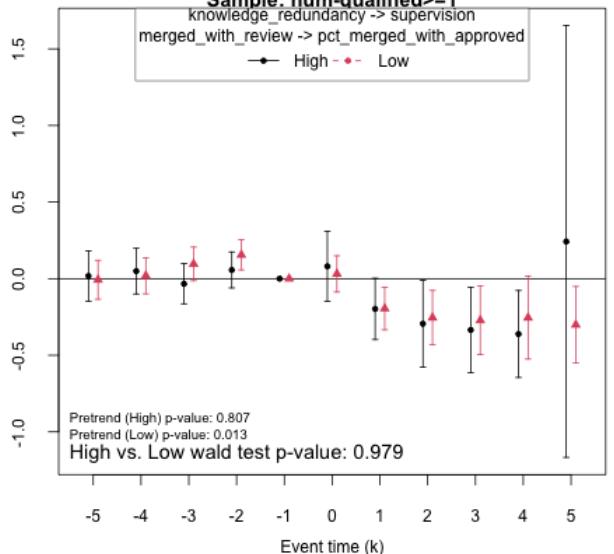
● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_approved

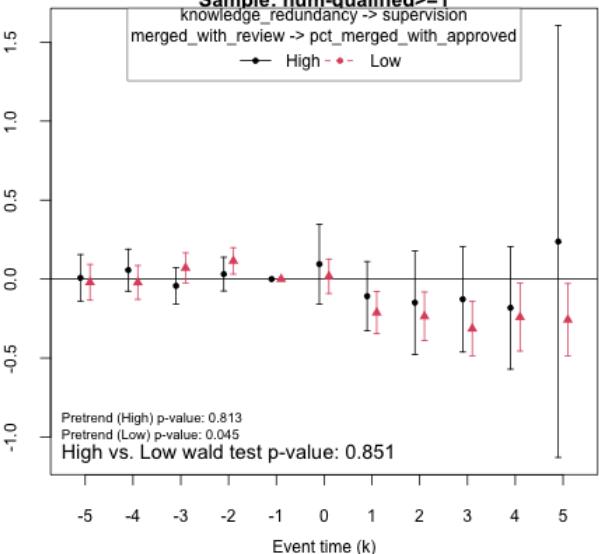
● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_approved

● High ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_approved

● High ▲ Low

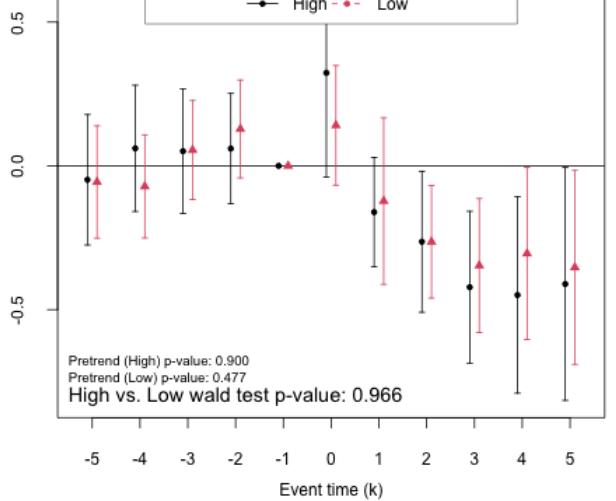


### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_review

● High ▲ Low

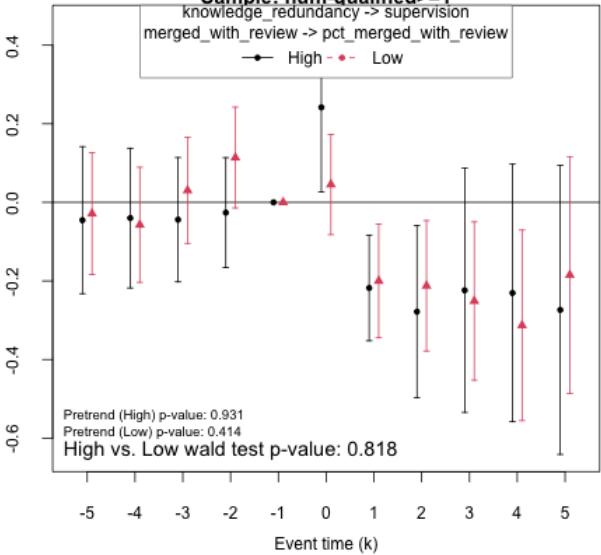


### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_review

● High ▲ Low

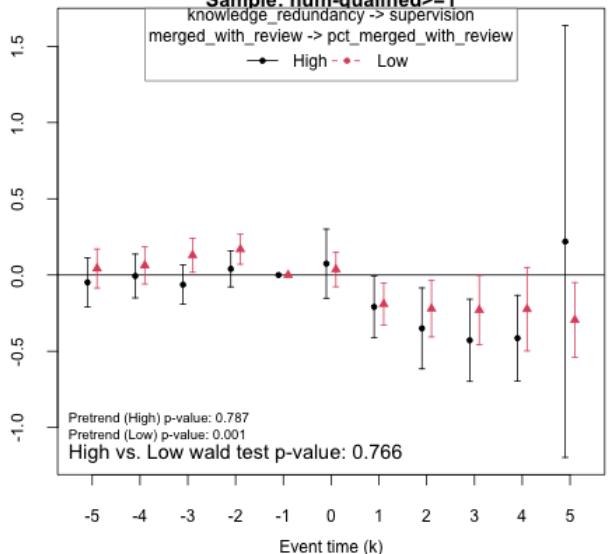


### pull\_request\_merged rolling5

Sample: num-qualified>=1

knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_review

● High ▲ Low

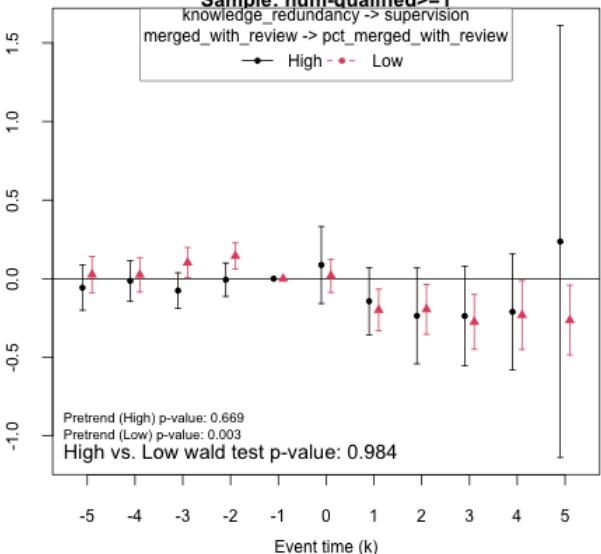


### pull\_request\_opened rolling5

Sample: num-qualified>=1

knowledge\_redundancy-> supervision  
merged\_with\_review -> pct\_merged\_with\_review

● High ▲ Low

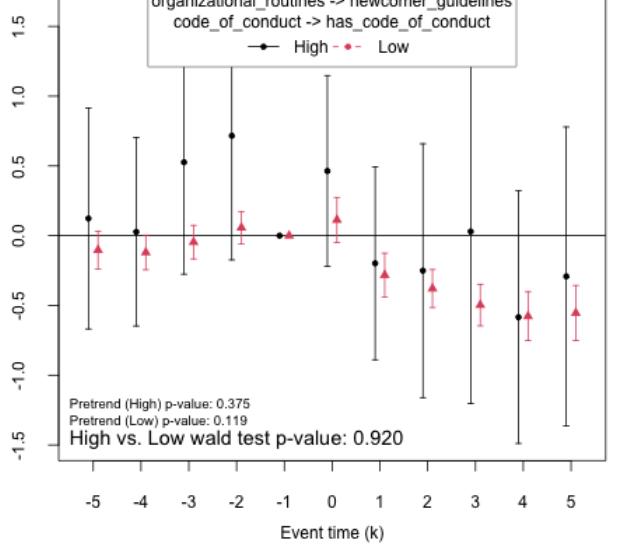


### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

organizational\_routines -> newcomer\_guidelines  
code\_of\_conduct -> has\_code\_of\_conduct

● High ▲ Low

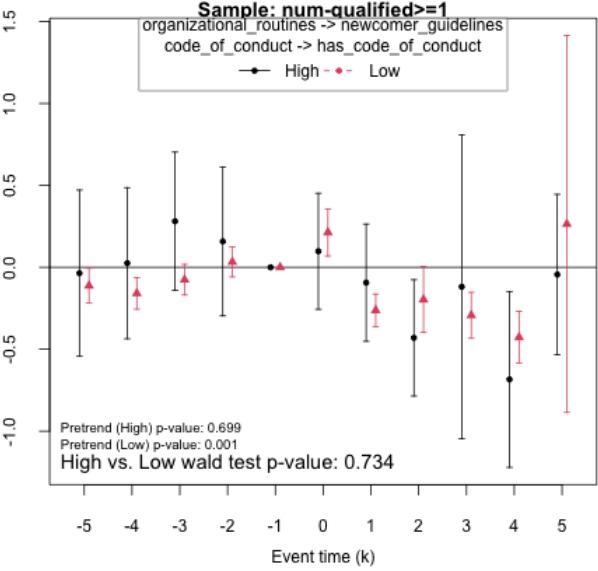


### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

organizational\_routines -> newcomer\_guidelines  
code\_of\_conduct -> has\_code\_of\_conduct

● High ▲ Low

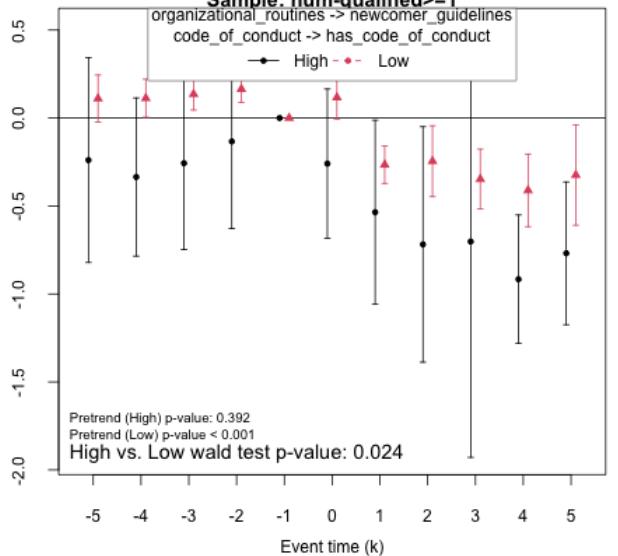


### pull\_request\_merged rolling5

Sample: num-qualified>=1

organizational\_routines -> newcomer\_guidelines  
code\_of\_conduct -> has\_code\_of\_conduct

● High ▲ Low

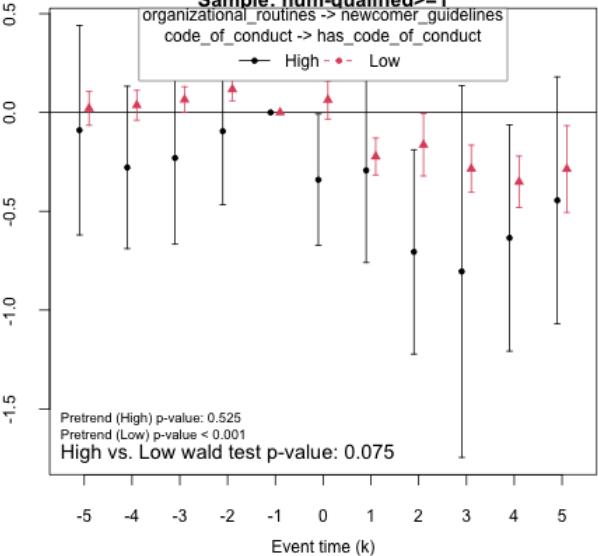


### pull\_request\_opened rolling5

Sample: num-qualified>=1

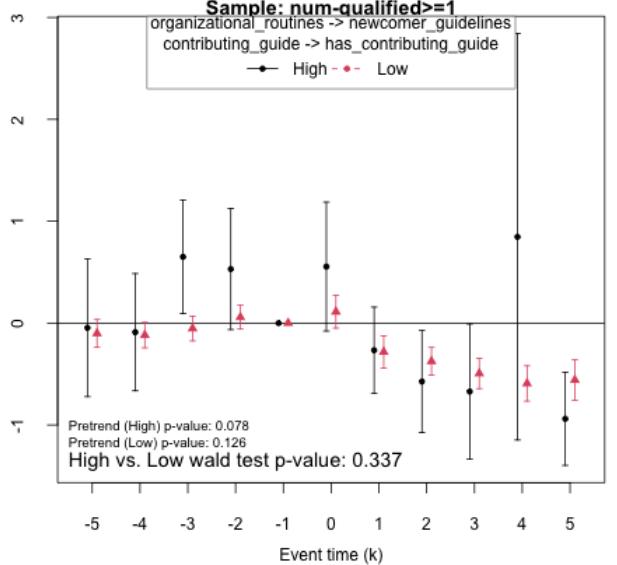
organizational\_routines -> newcomer\_guidelines  
code\_of\_conduct -> has\_code\_of\_conduct

● High ▲ Low

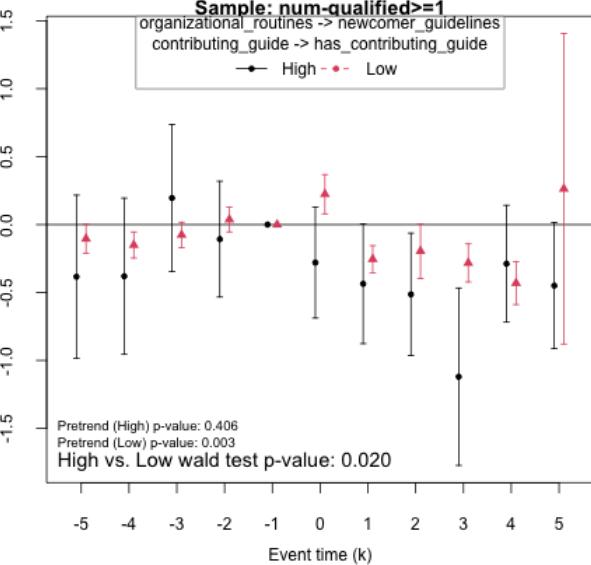


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
contributing\_guide -> has\_contributing\_guide

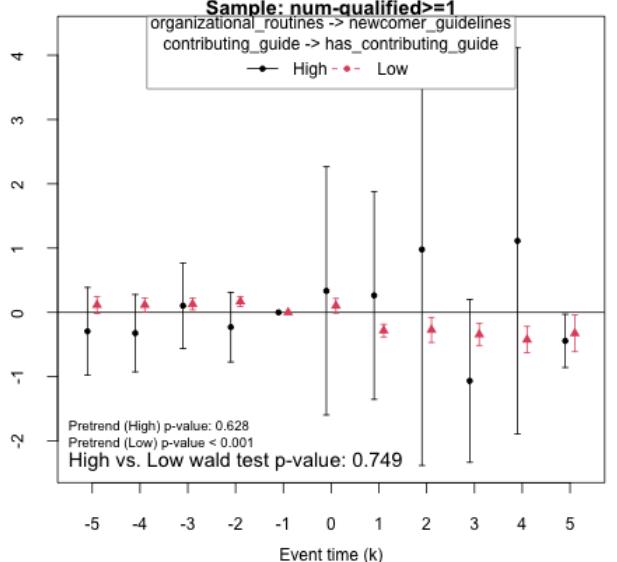
● High - ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
contributing\_guide -> has\_contributing\_guide

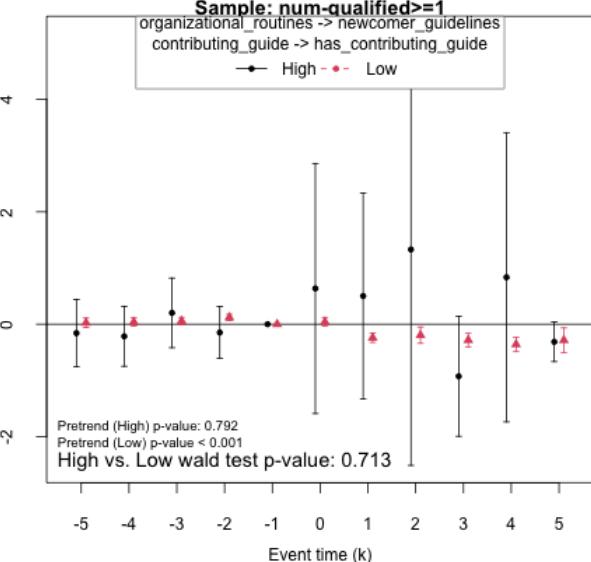
● High - ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
contributing\_guide -> has\_contributing\_guide

● High - ▲ Low

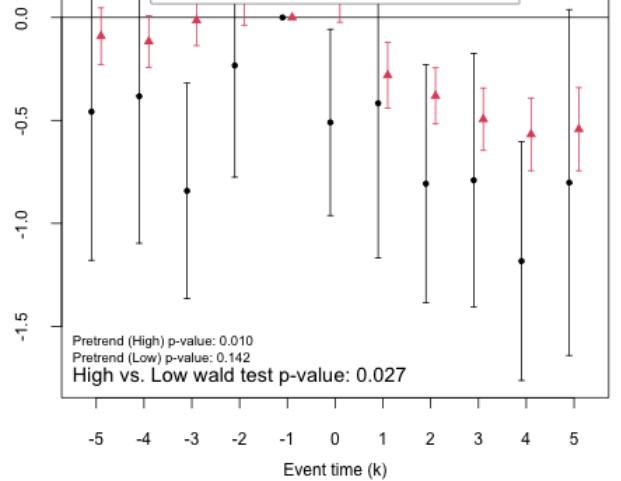
**pull\_request\_opened rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
contributing\_guide -> has\_contributing\_guide

● High - ▲ Low

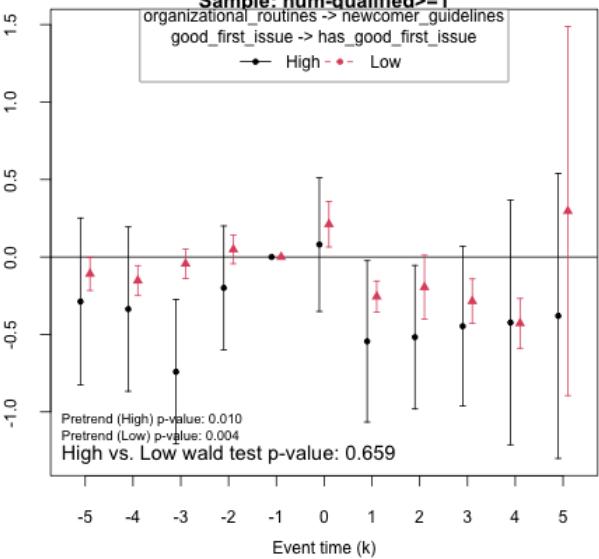


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
good\_first\_issue -> has\_good\_first\_issue

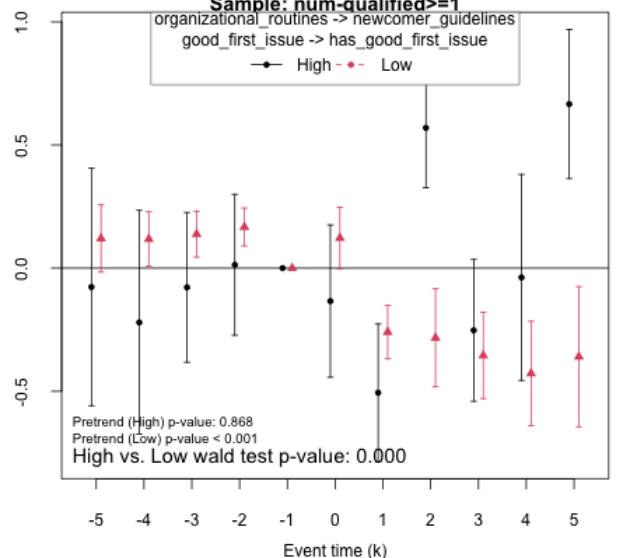
● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
good\_first\_issue -> has\_good\_first\_issue

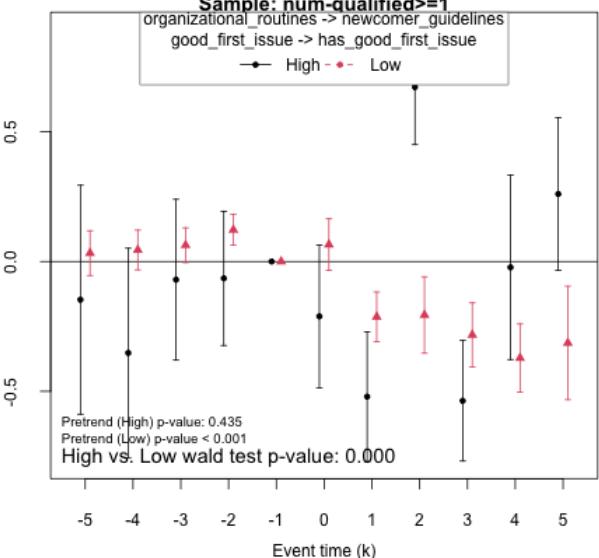
● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
good\_first\_issue -> has\_good\_first\_issue

● High ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**organizational\_routines -> newcomer\_guidelines  
good\_first\_issue -> has\_good\_first\_issue

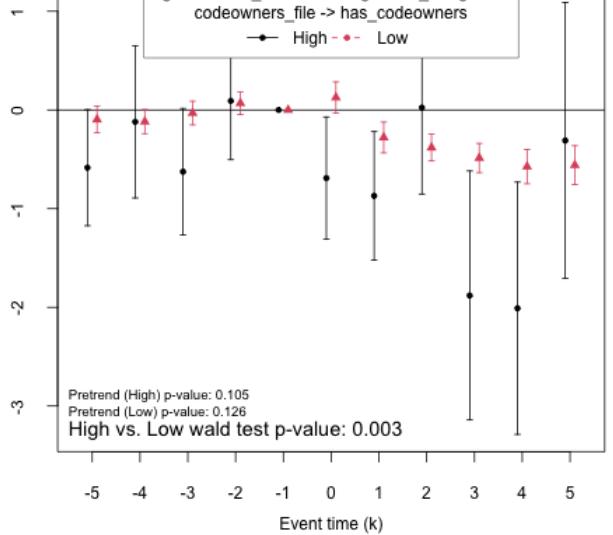
● High ▲ Low



### major\_minor\_release\_count rolling5

**Sample: num-qualified>=1**

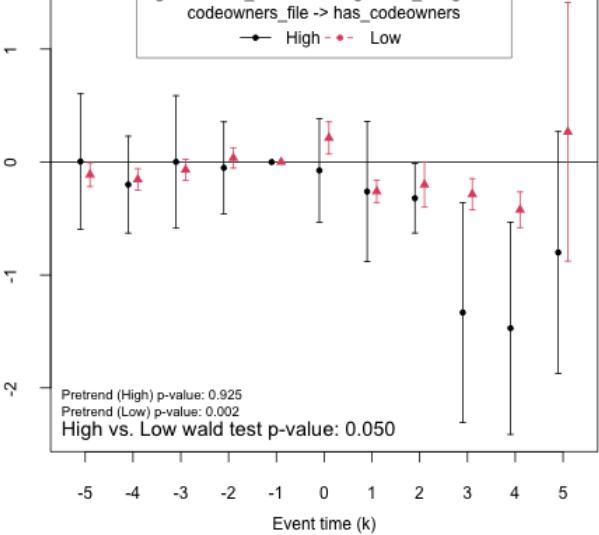
organizational\_routines -> organized\_assignment  
codeowners\_file -> has\_codeowners



### overall\_new\_release\_count rolling5

**Sample: num-qualified>=1**

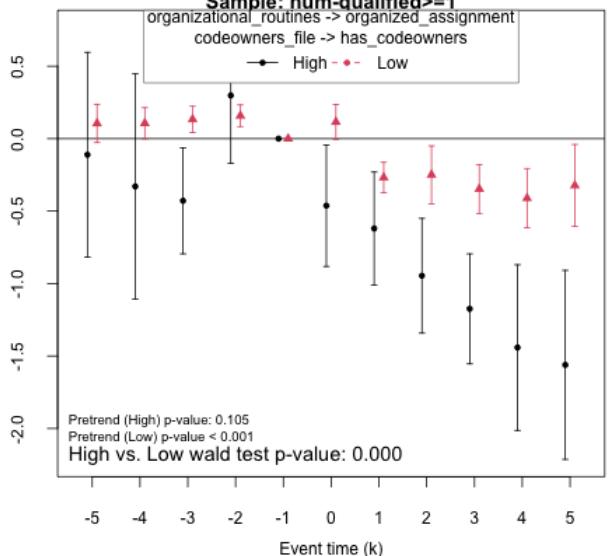
organizational\_routines -> organized\_assignment  
codeowners\_file -> has\_codeowners



### pull\_request\_merged rolling5

**Sample: num-qualified>=1**

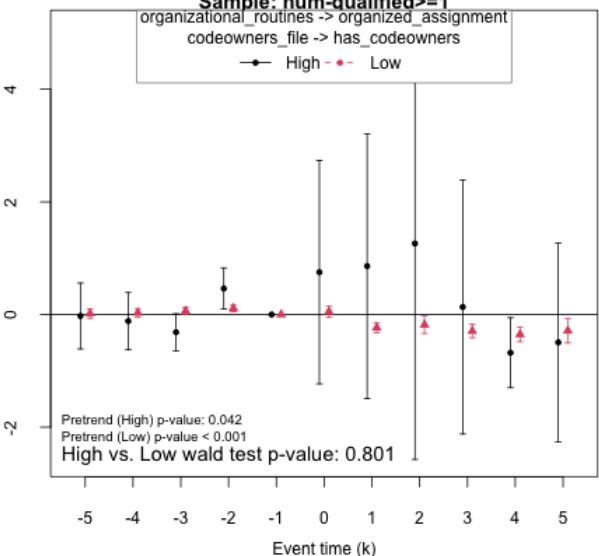
organizational\_routines -> organized\_assignment  
codeowners\_file -> has\_codeowners

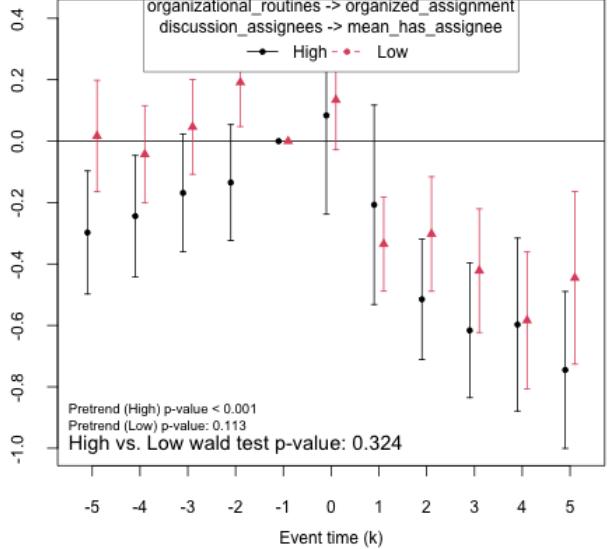
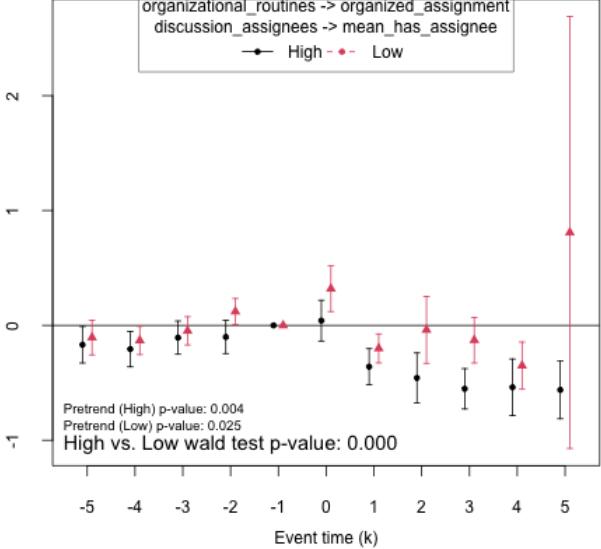
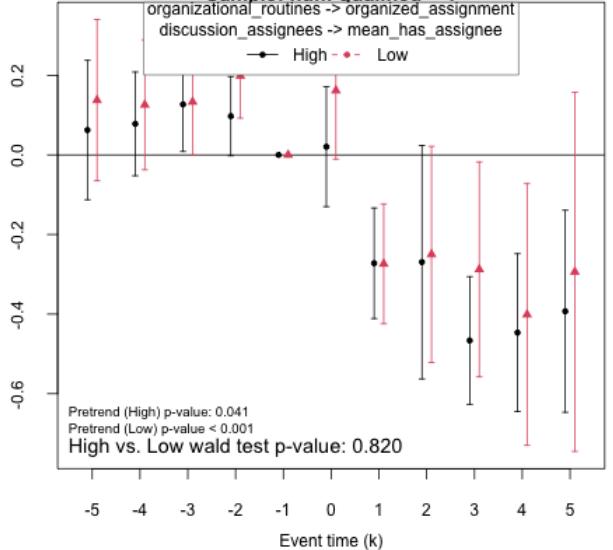
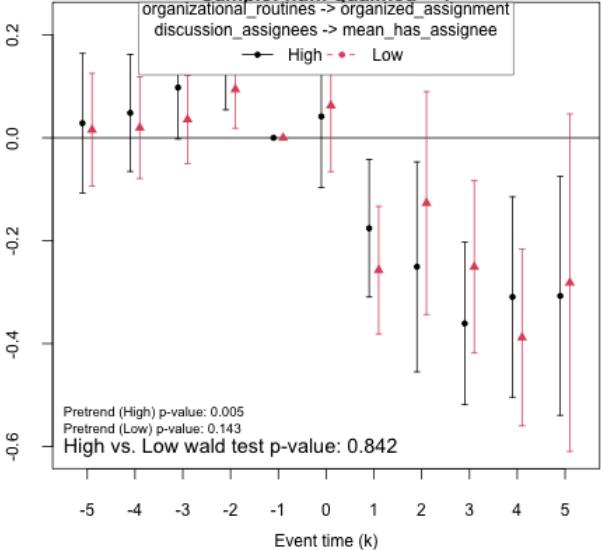


### pull\_request\_opened rolling5

**Sample: num-qualified>=1**

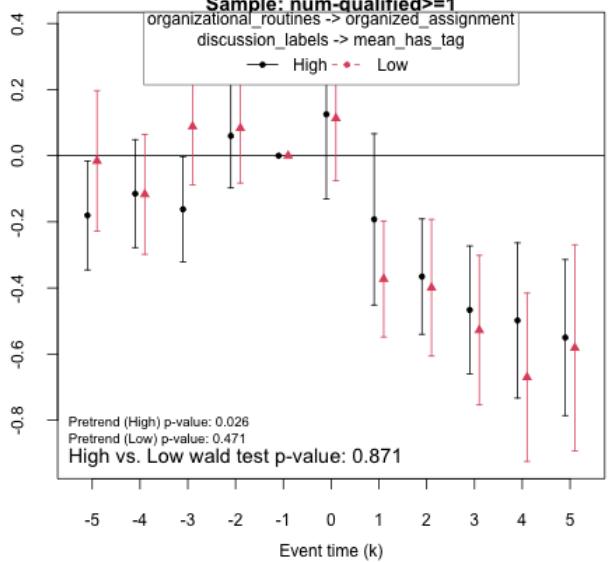
organizational\_routines -> organized\_assignment  
codeowners\_file -> has\_codeowners



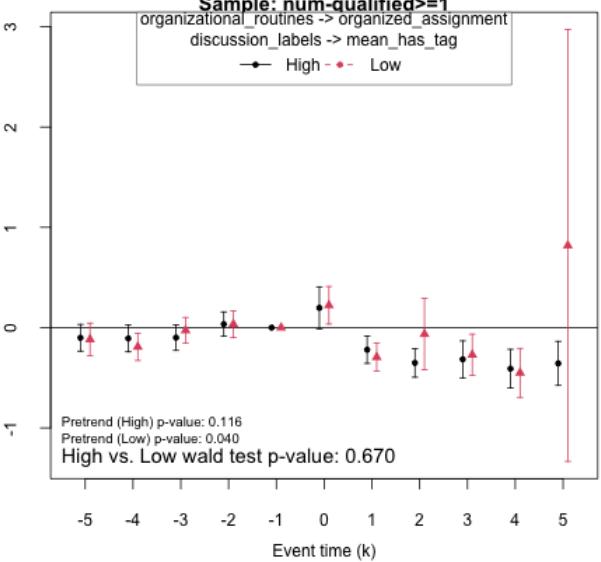
**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**organizational\_routines -> organized\_assignment  
discussion\_assignees -> mean\_has\_assignee**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**organizational\_routines -> organized\_assignment  
discussion\_assignees -> mean\_has\_assignee**pull\_request\_merged rolling5****Sample: num-qualified>=1**organizational\_routines -> organized\_assignment  
discussion\_assignees -> mean\_has\_assignee**pull\_request\_opened rolling5****Sample: num-qualified>=1**organizational\_routines -> organized\_assignment  
discussion\_assignees -> mean\_has\_assignee

**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

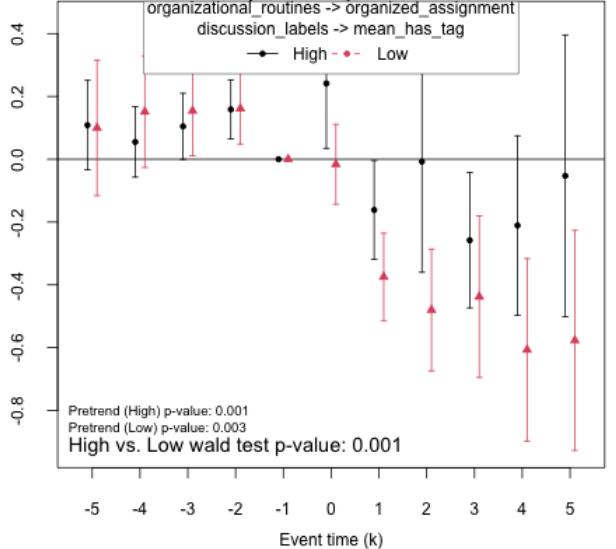
organizational\_routines -> organized\_assignment  
 discussion\_labels -> mean\_has\_tag  
 ● High - ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

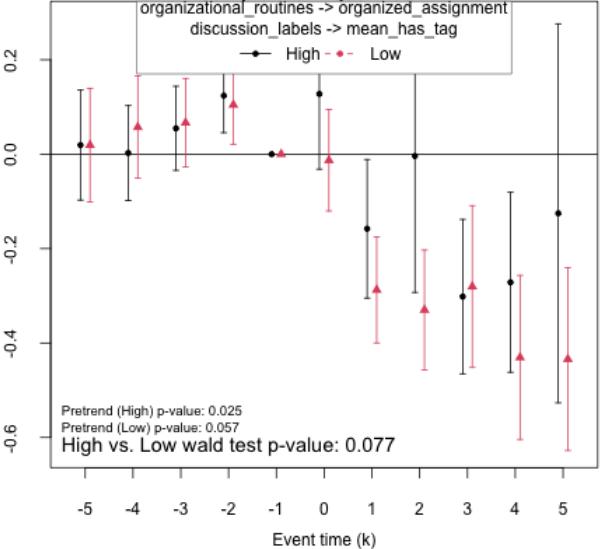
organizational\_routines -> organized\_assignment  
 discussion\_labels -> mean\_has\_tag  
 ● High - ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

organizational\_routines -> organized\_assignment  
 discussion\_labels -> mean\_has\_tag  
 ● High - ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**

organizational\_routines -> organized\_assignment  
 discussion\_labels -> mean\_has\_tag  
 ● High - ▲ Low

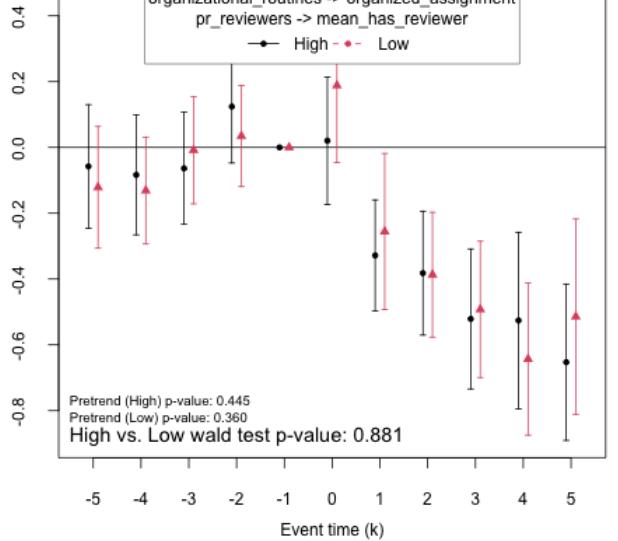


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_assignment

pr\_reviewers -&gt; mean\_has\_reviewer

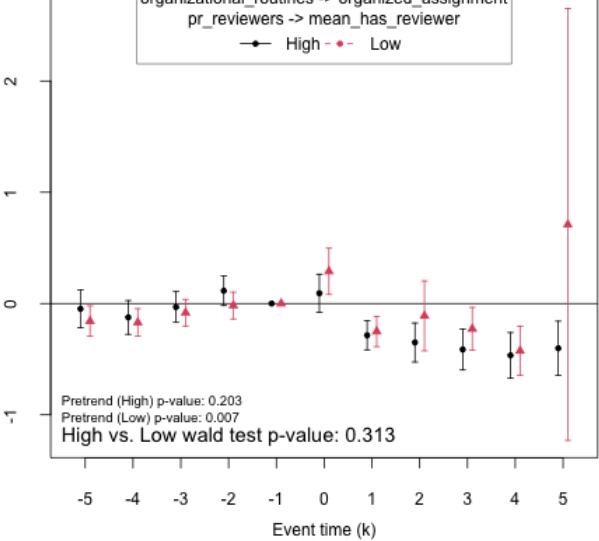
● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_assignment

pr\_reviewers -&gt; mean\_has\_reviewer

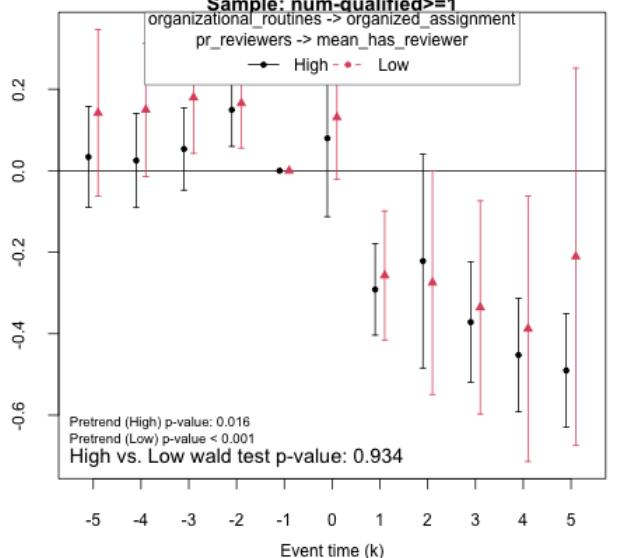
● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_assignment

pr\_reviewers -&gt; mean\_has\_reviewer

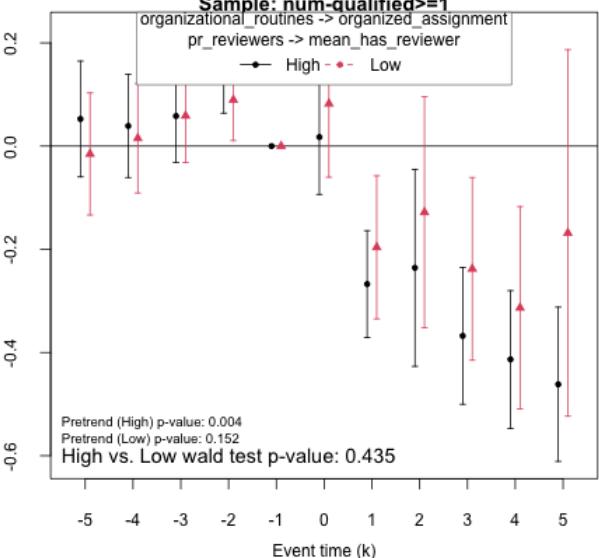
● High ▲ Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_assignment

pr\_reviewers -&gt; mean\_has\_reviewer

● High ▲ Low



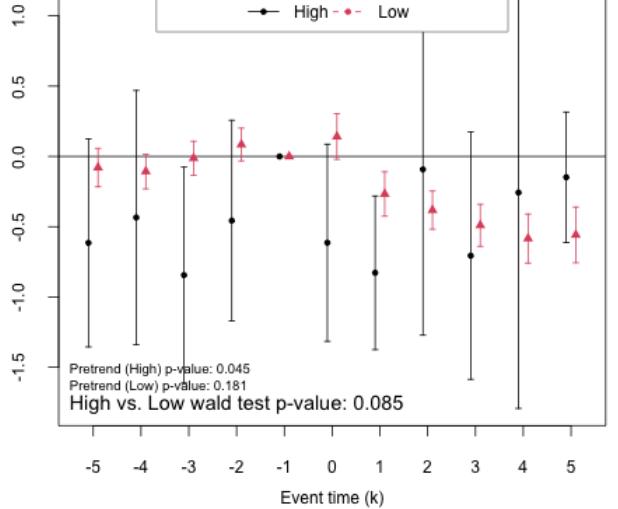
### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

organizational\_routines -> organized\_inquiries

issue\_template -> has\_issue\_template

● High - ▲ Low



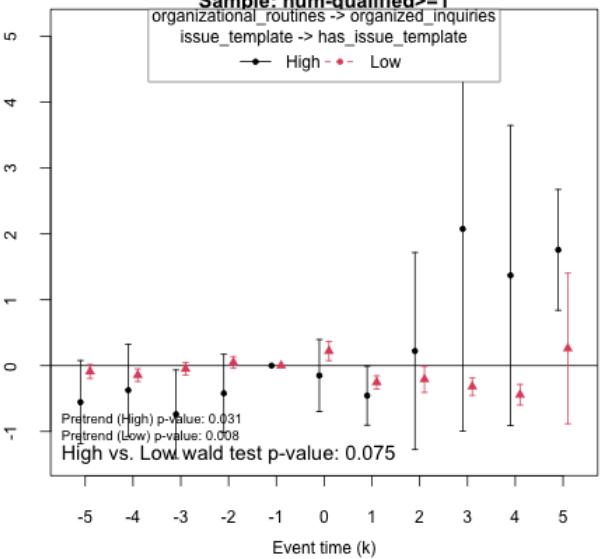
### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

organizational\_routines -> organized\_inquiries

issue\_template -> has\_issue\_template

● High - ▲ Low



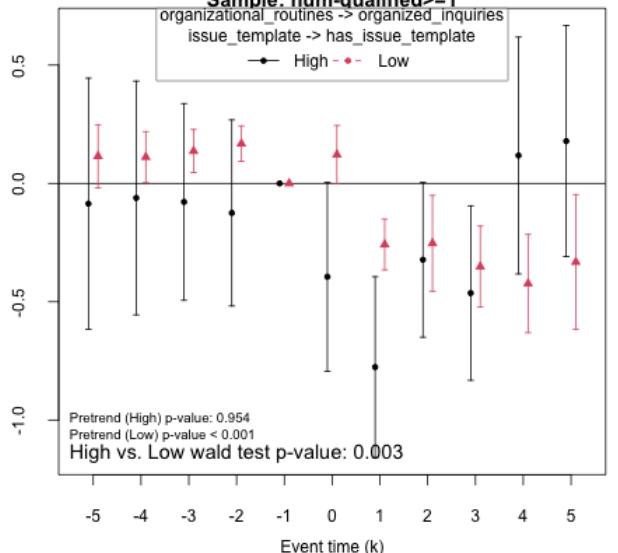
### pull\_request\_merged rolling5

Sample: num-qualified>=1

organizational\_routines -> organized\_inquiries

issue\_template -> has\_issue\_template

● High - ▲ Low



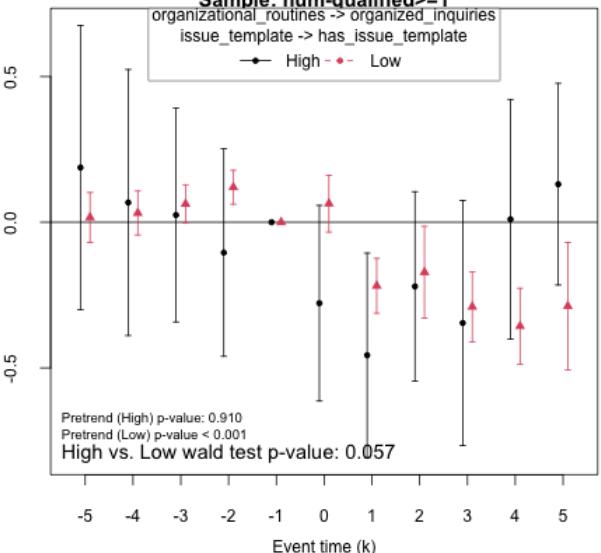
### pull\_request\_opened rolling5

Sample: num-qualified>=1

organizational\_routines -> organized\_inquiries

issue\_template -> has\_issue\_template

● High - ▲ Low

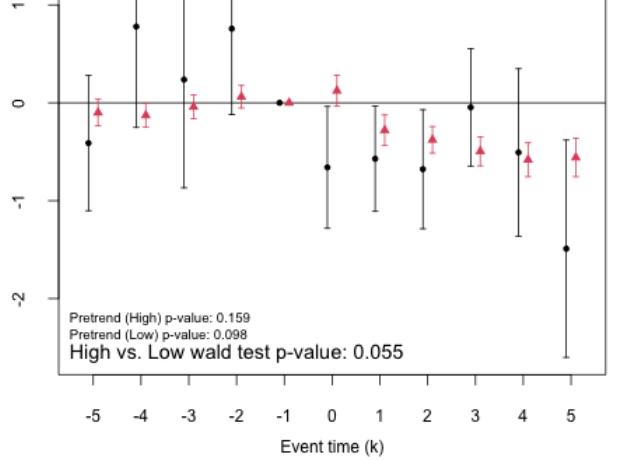


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_inquiries

pr\_template -&gt; has\_pr\_template

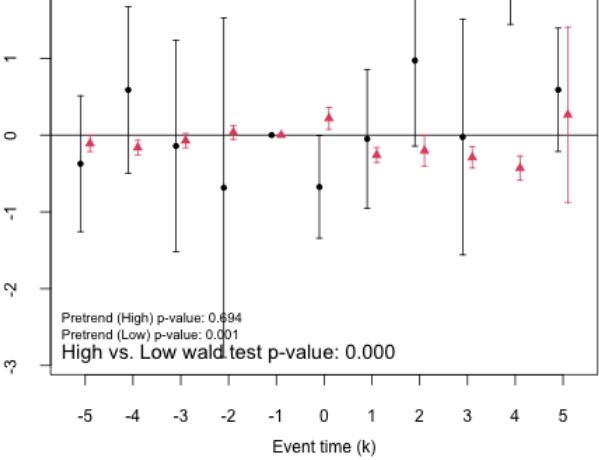
● High - ● Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_inquiries

pr\_template -&gt; has\_pr\_template

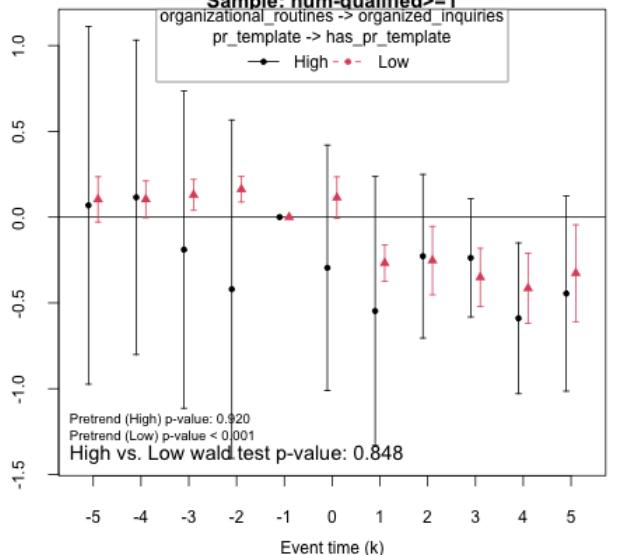
● High - ● Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_inquiries

pr\_template -&gt; has\_pr\_template

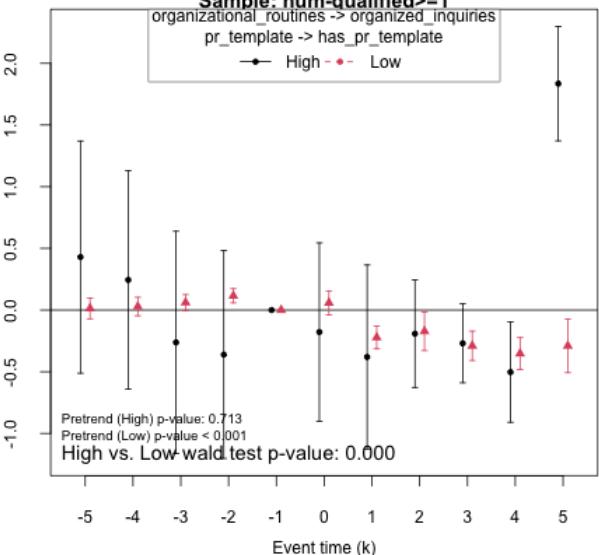
● High - ● Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**

organizational\_routines -&gt; organized\_inquiries

pr\_template -&gt; has\_pr\_template

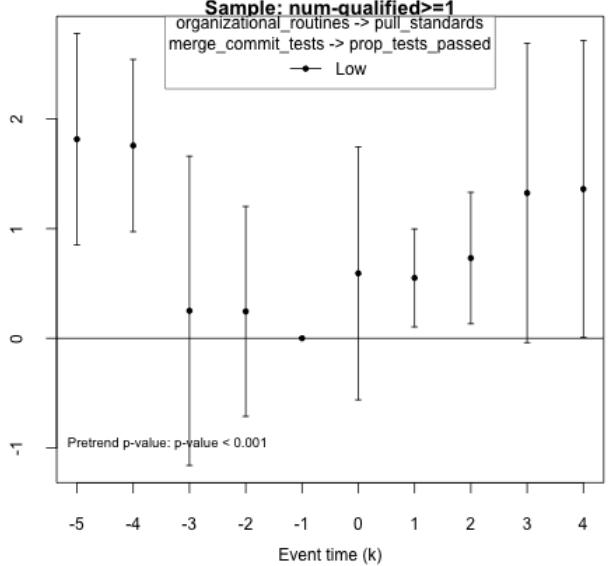
● High - ● Low



### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

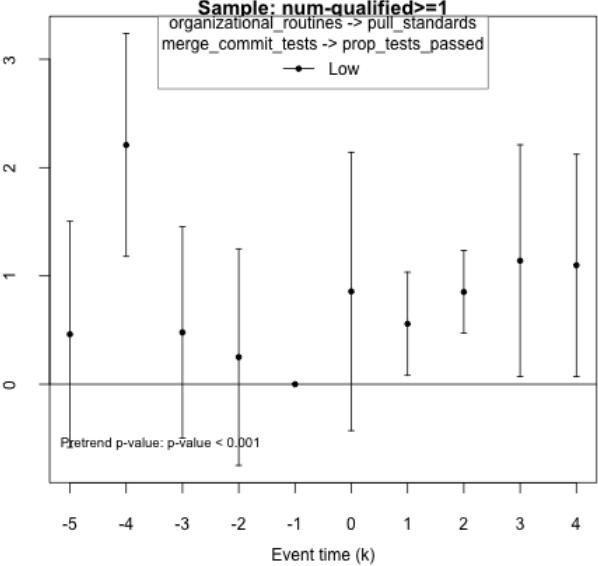
organizational\_routines -> pull\_standards  
merge\_commit\_tests -> prop\_tests\_passed



### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

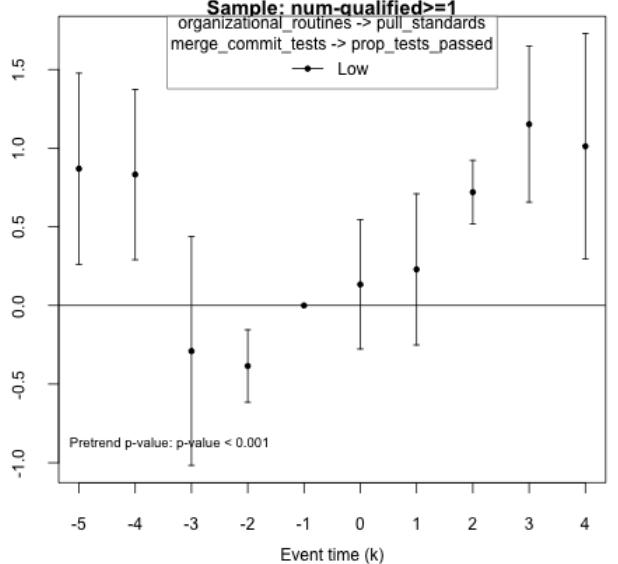
organizational\_routines -> pull\_standards  
merge\_commit\_tests -> prop\_tests\_passed



### pull\_request\_merged rolling5

Sample: num-qualified>=1

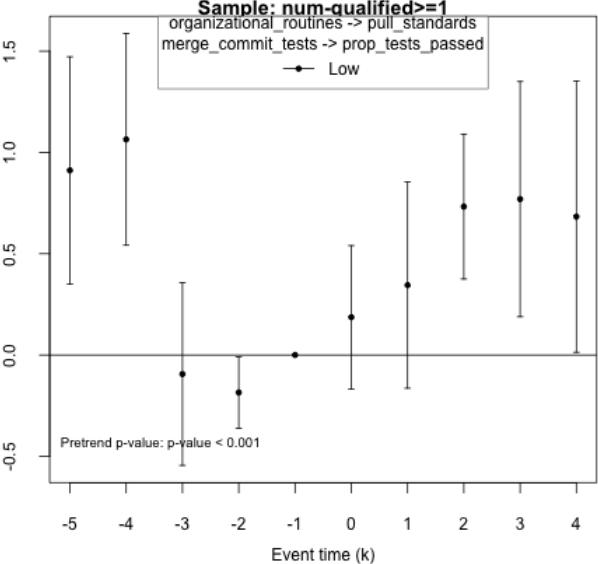
organizational\_routines -> pull\_standards  
merge\_commit\_tests -> prop\_tests\_passed

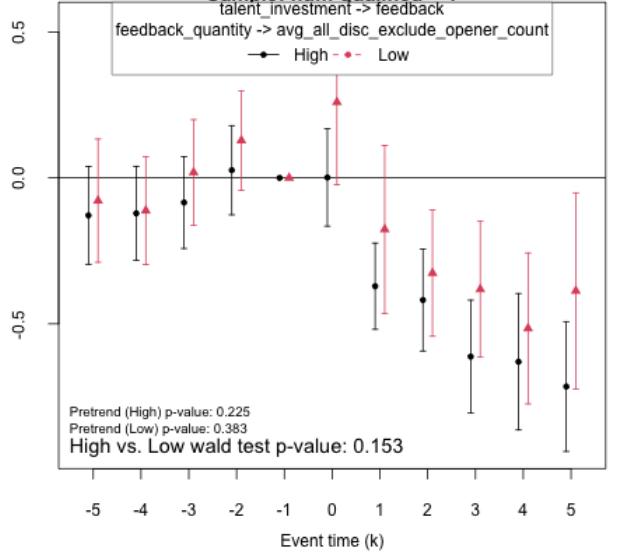
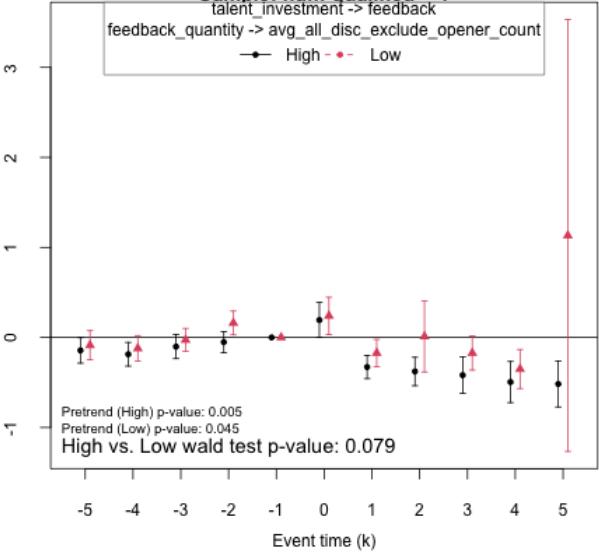
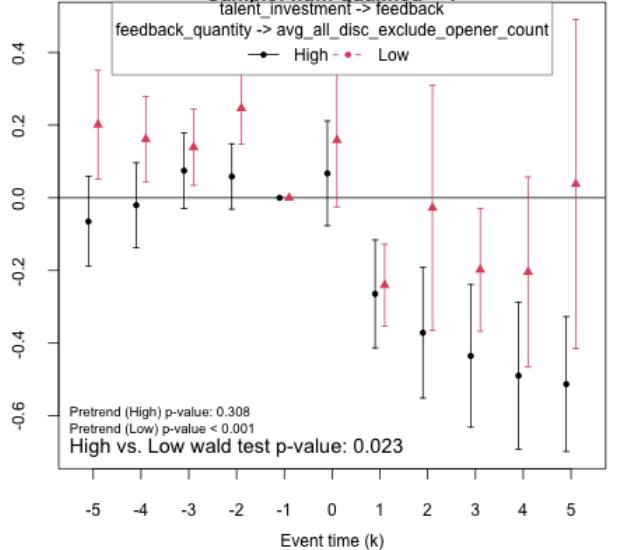
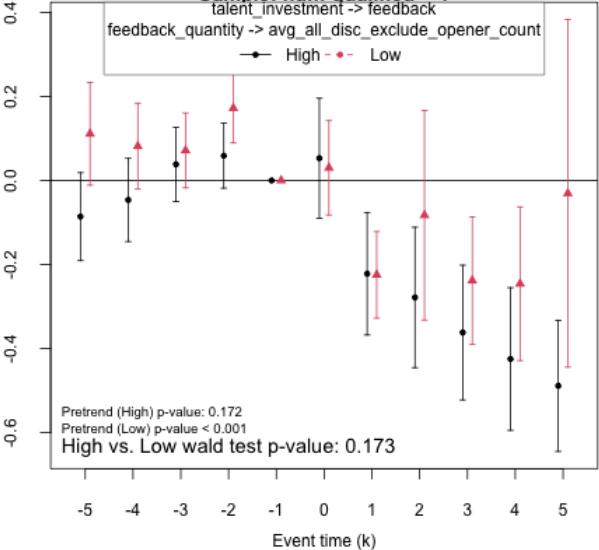


### pull\_request\_opened rolling5

Sample: num-qualified>=1

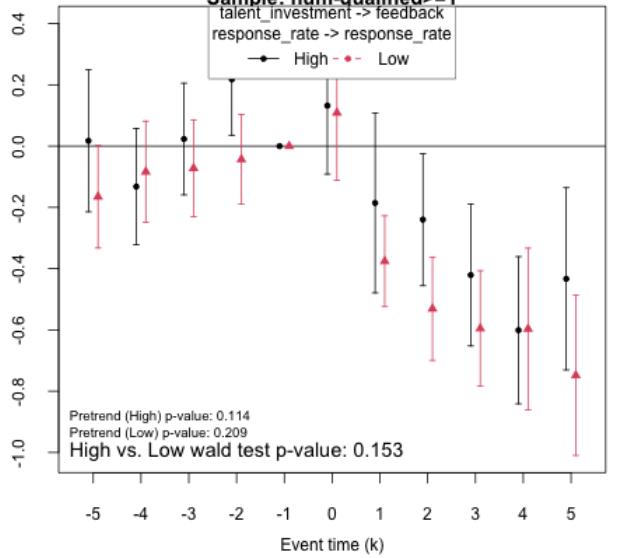
organizational\_routines -> pull\_standards  
merge\_commit\_tests -> prop\_tests\_passed



**major\_minor\_release\_count rolling5****Sample: num-qualified>=1****overall\_new\_release\_count rolling5****Sample: num-qualified>=1****pull\_request\_merged rolling5****Sample: num-qualified>=1****pull\_request\_opened rolling5****Sample: num-qualified>=1**

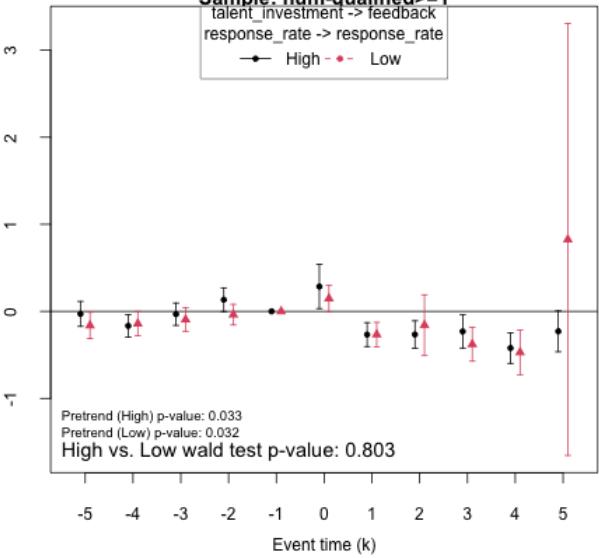
### major\_minor\_release\_count rolling5

Sample: num-qualified>=1



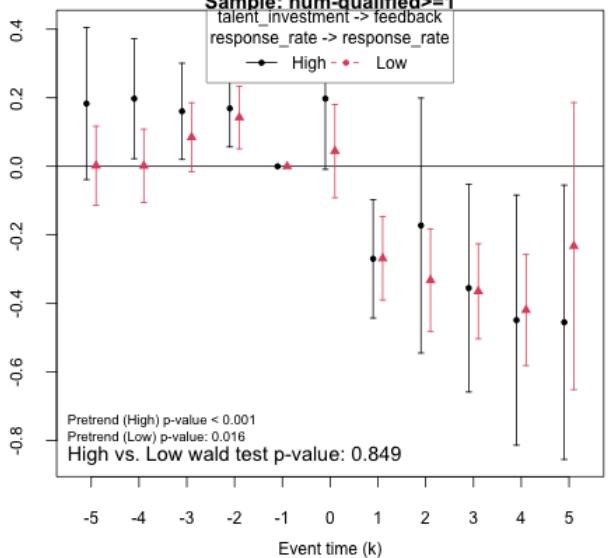
### overall\_new\_release\_count rolling5

Sample: num-qualified>=1



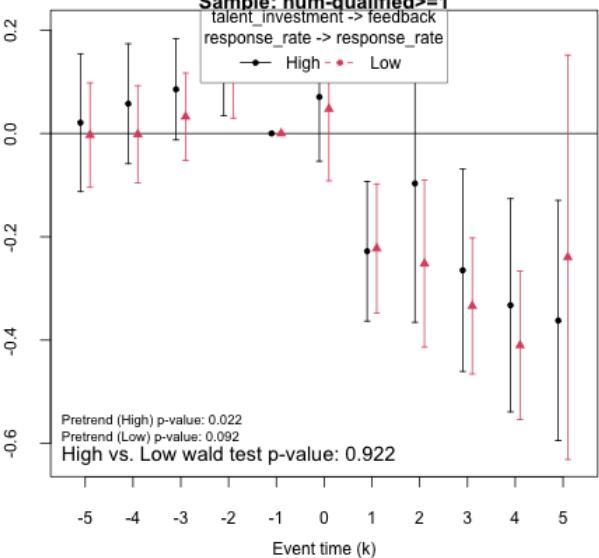
### pull\_request\_merged rolling5

Sample: num-qualified>=1



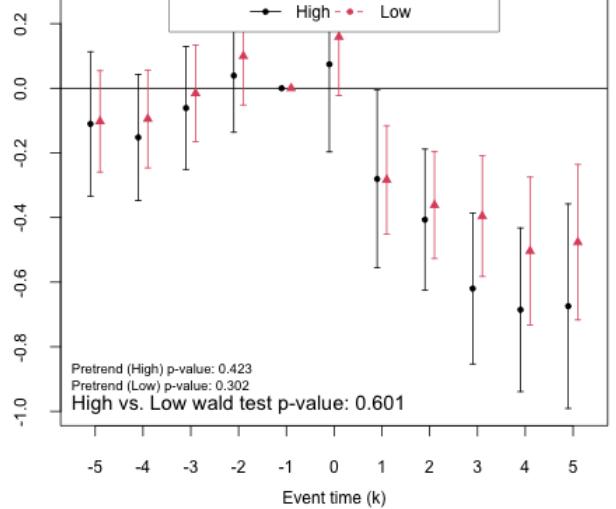
### pull\_request\_opened rolling5

Sample: num-qualified>=1

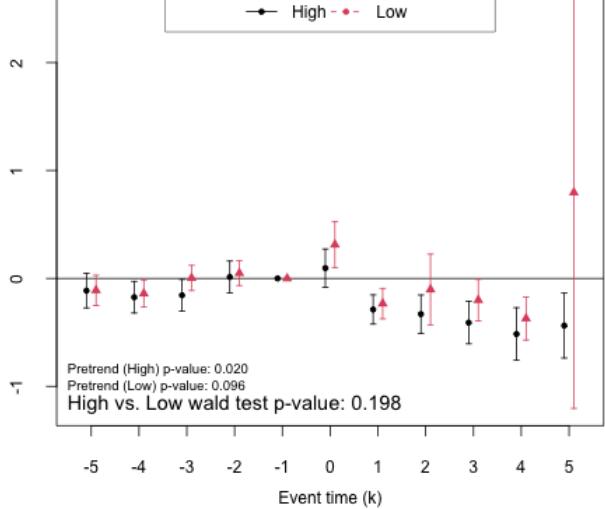


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

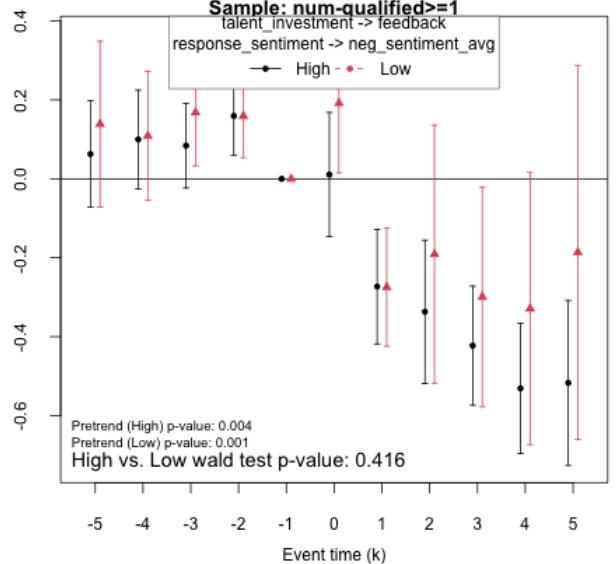
talent\_investment -> feedback  
 response\_sentiment -> neg\_sentiment\_avg  
 ● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

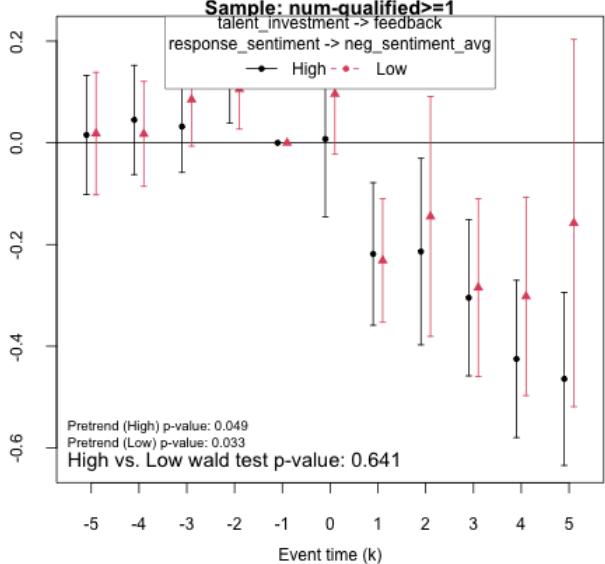
talent\_investment -> feedback  
 response\_sentiment -> neg\_sentiment\_avg  
 ● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

talent\_investment -> feedback  
 response\_sentiment -> neg\_sentiment\_avg  
 ● High ▲ Low

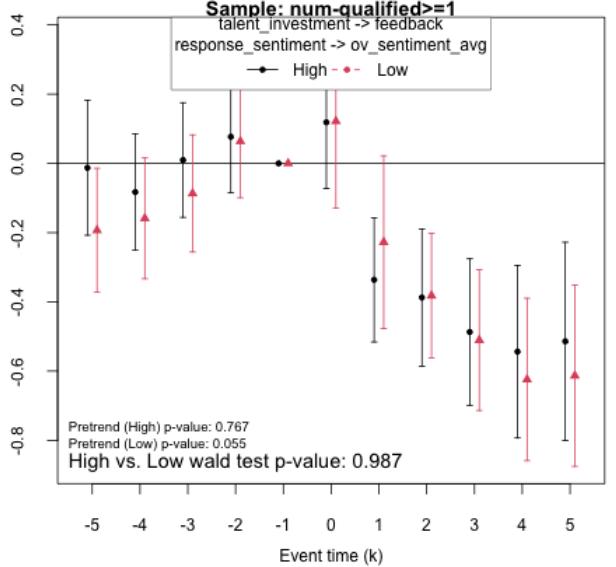
**pull\_request\_opened rolling5****Sample: num-qualified>=1**

talent\_investment -> feedback  
 response\_sentiment -> neg\_sentiment\_avg  
 ● High ▲ Low

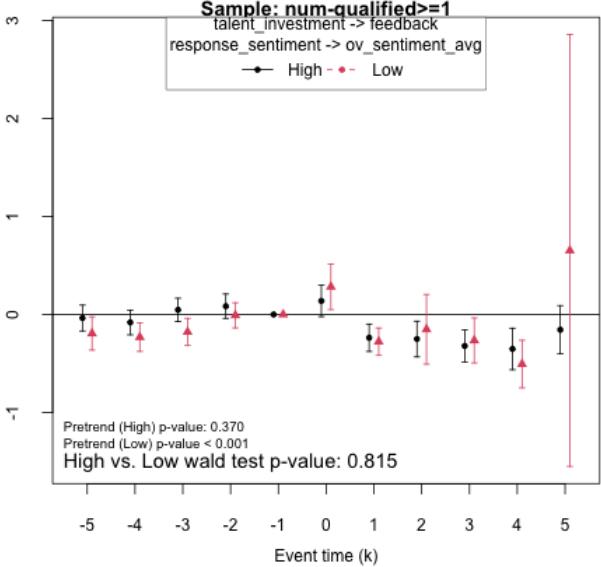


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_sentiment -> ov\_sentiment\_avg

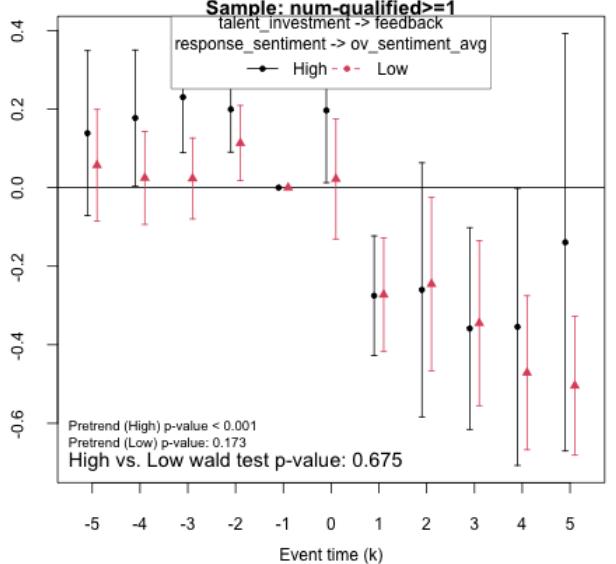
● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_sentiment -> ov\_sentiment\_avg

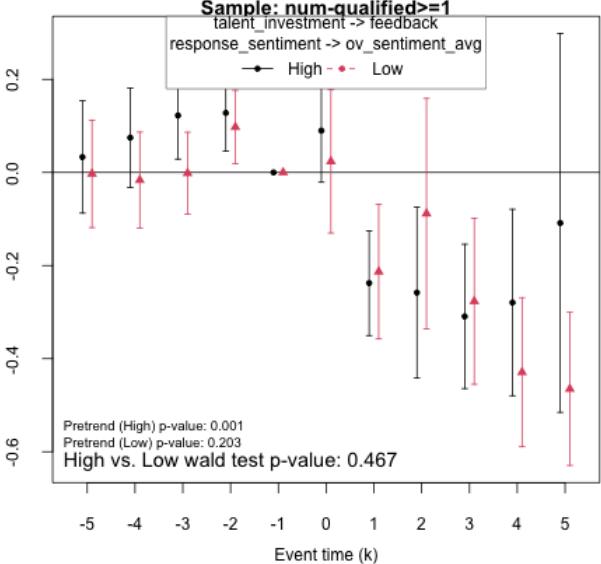
● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_sentiment -> ov\_sentiment\_avg

● High ▲ Low

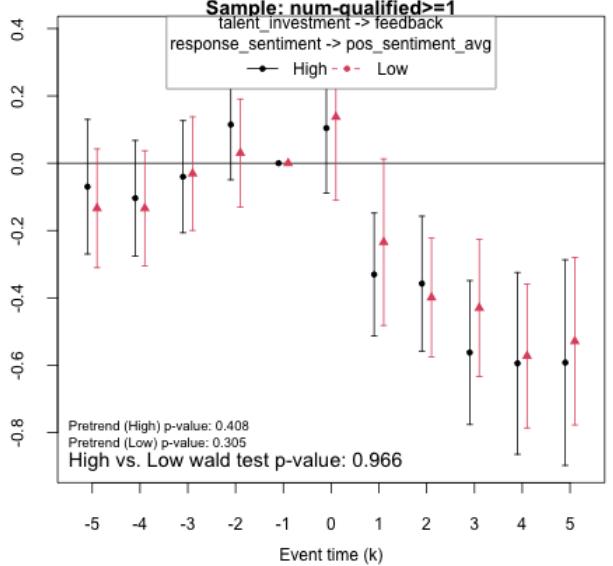
**pull\_request\_opened rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_sentiment -> ov\_sentiment\_avg

● High ▲ Low

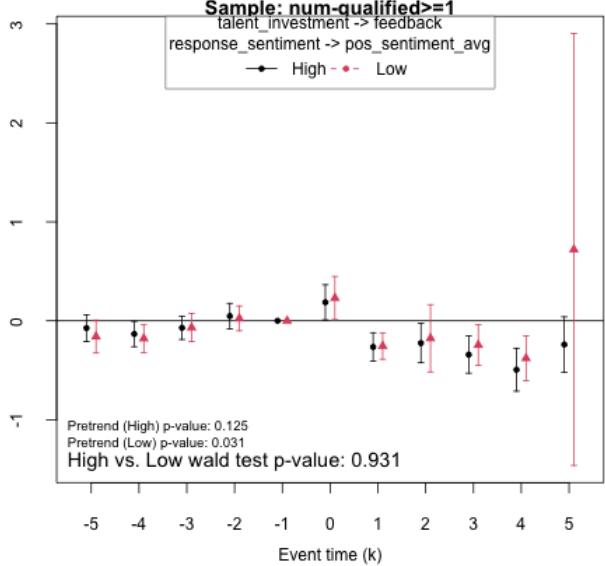


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**

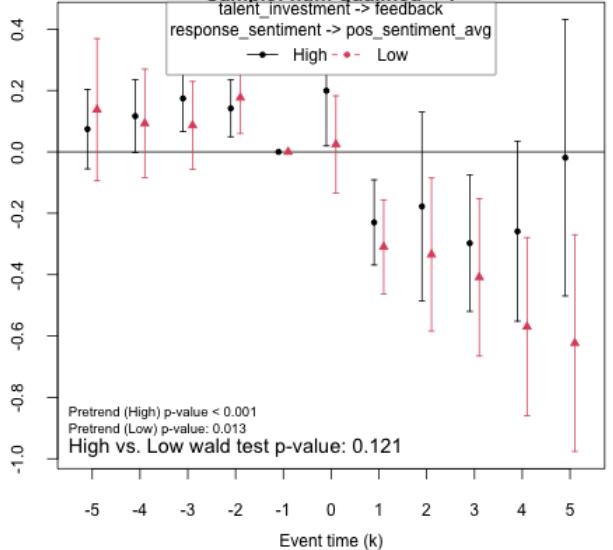
talent\_investment -> feedback  
 response\_sentiment -> pos\_sentiment\_avg  
 ● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**

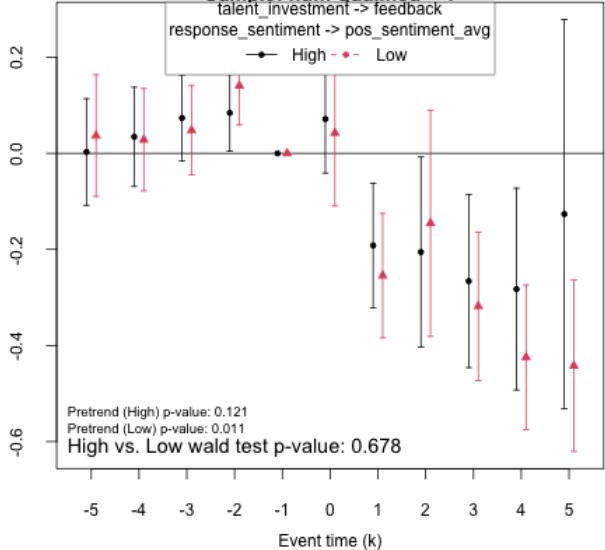
talent\_investment -> feedback  
 response\_sentiment -> pos\_sentiment\_avg  
 ● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**

talent\_investment -> feedback  
 response\_sentiment -> pos\_sentiment\_avg  
 ● High ▲ Low

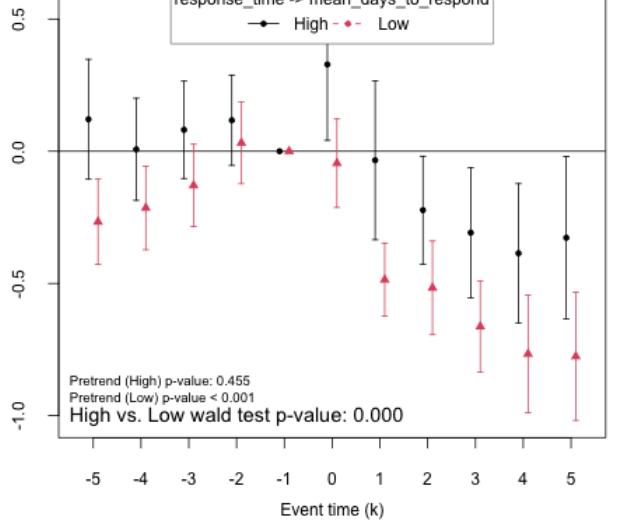
**pull\_request\_opened rolling5****Sample: num-qualified>=1**

talent\_investment -> feedback  
 response\_sentiment -> pos\_sentiment\_avg  
 ● High ▲ Low

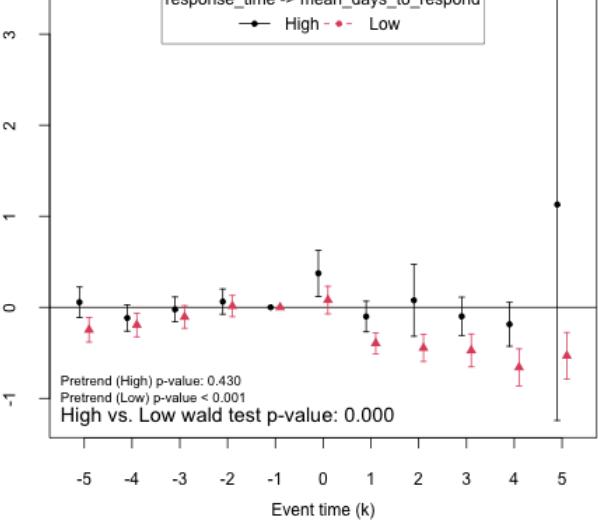


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_time -> mean\_days\_to\_respond

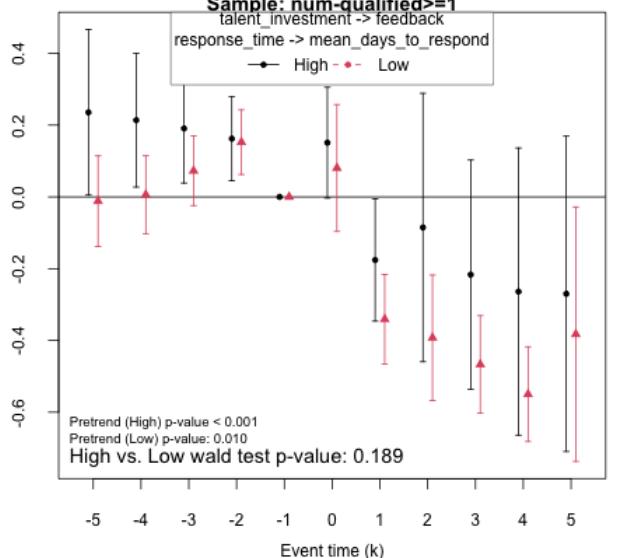
● High ▲ Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_time -> mean\_days\_to\_respond

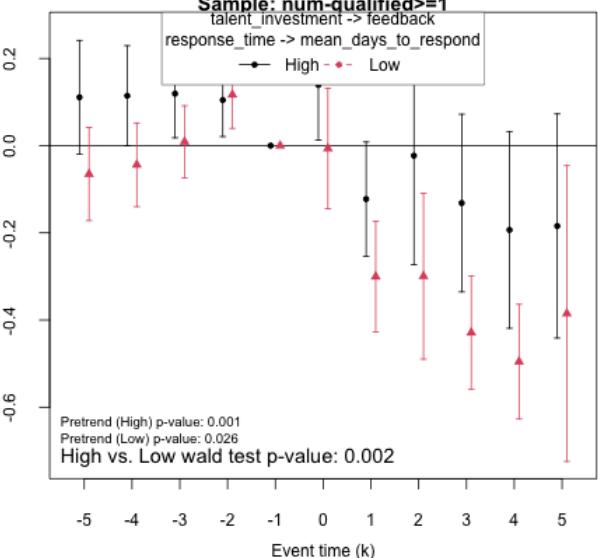
● High ▲ Low

**pull\_request\_merged rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_time -> mean\_days\_to\_respond

● High ▲ Low

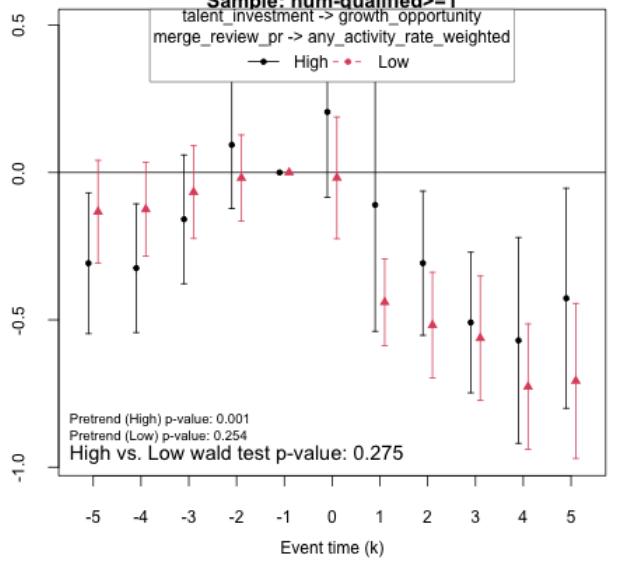
**pull\_request\_opened rolling5****Sample: num-qualified>=1**talent\_investment -> feedback  
response\_time -> mean\_days\_to\_respond

● High ▲ Low

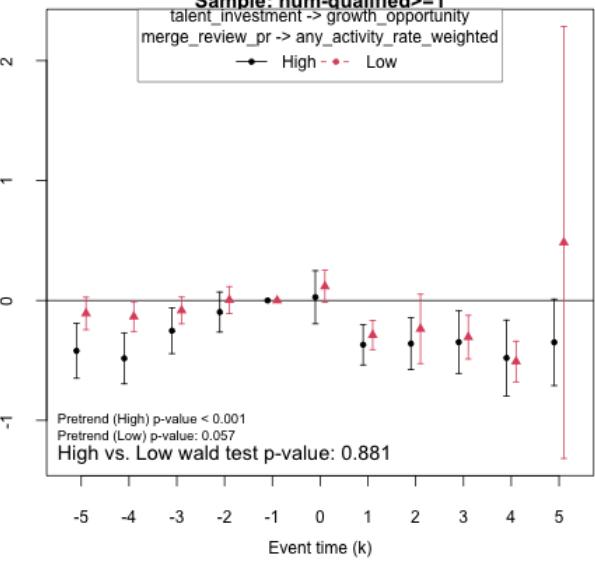


**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> any\_activity\_rate\_weighted

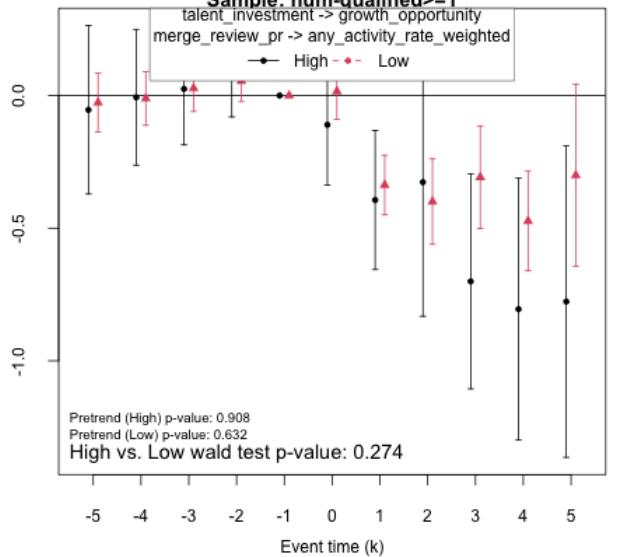
● High ● Low

**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> any\_activity\_rate\_weighted

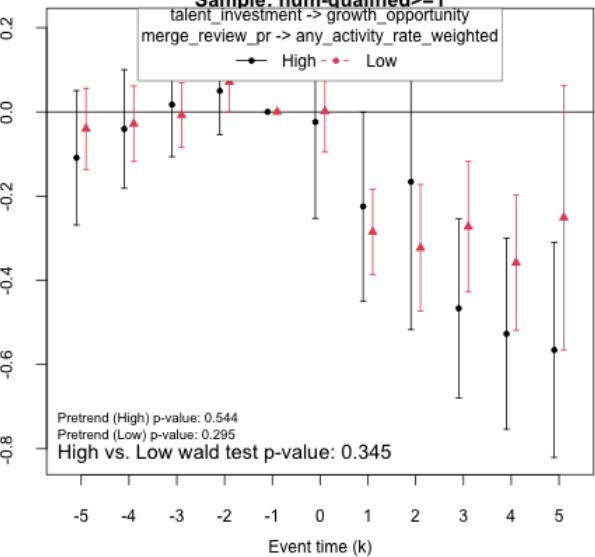
● High ● Low

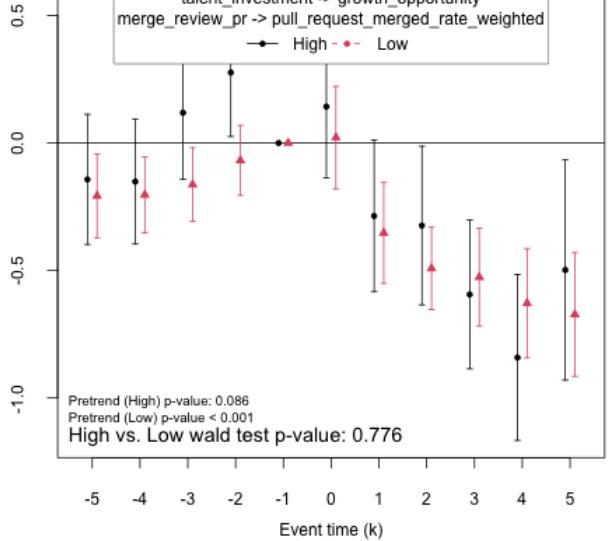
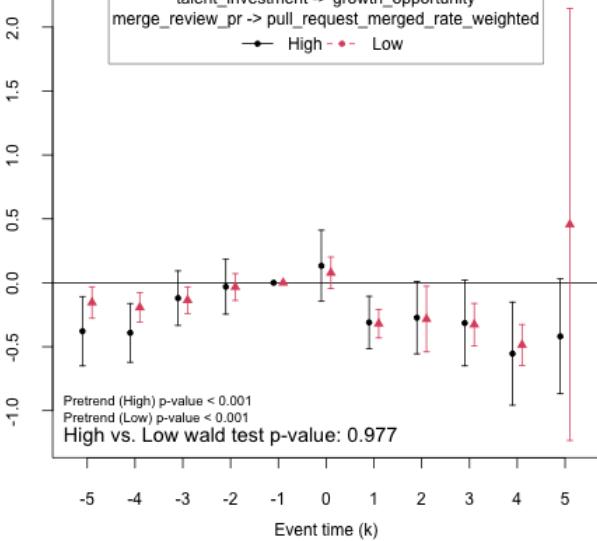
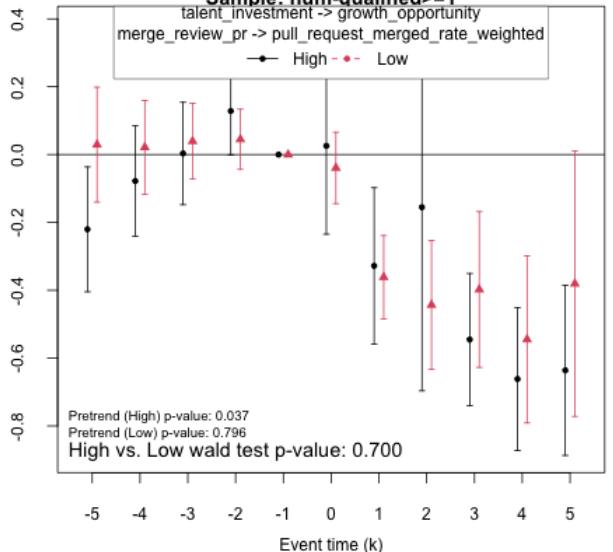
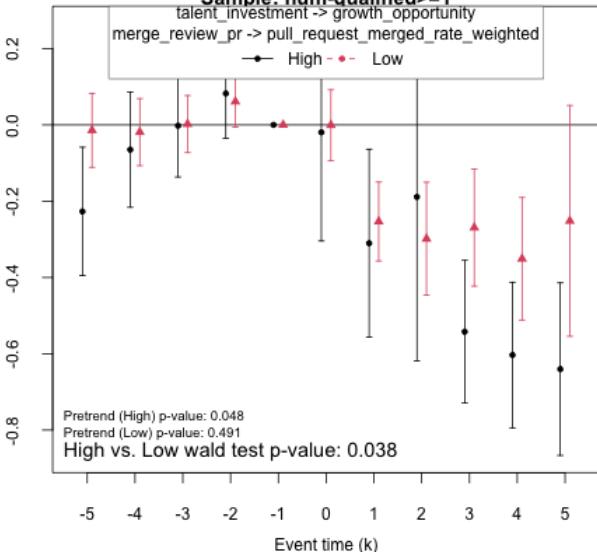
**pull\_request\_merged rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> any\_activity\_rate\_weighted

● High ● Low

**pull\_request\_opened rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> any\_activity\_rate\_weighted

● High ● Low



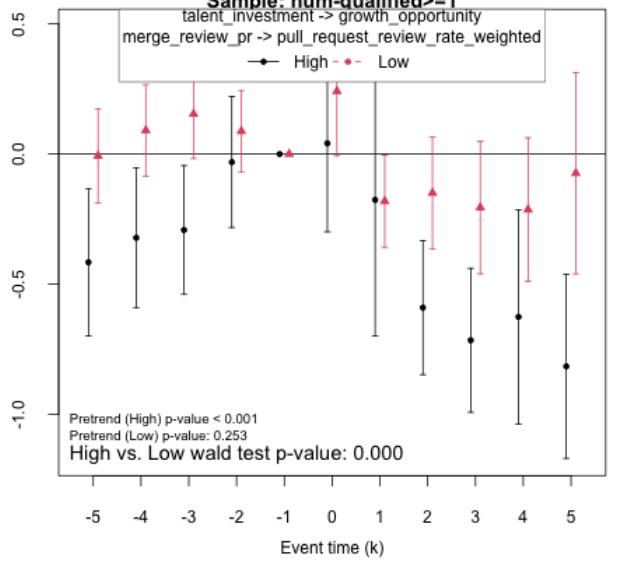
**major\_minor\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_merged\_rate\_weighted**overall\_new\_release\_count rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_merged\_rate\_weighted**pull\_request\_merged rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_merged\_rate\_weighted**pull\_request\_opened rolling5****Sample: num-qualified>=1**talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_merged\_rate\_weighted

### major\_minor\_release\_count rolling5

Sample: num-qualified>=1

talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_review\_rate\_weighted

● High - ● Low

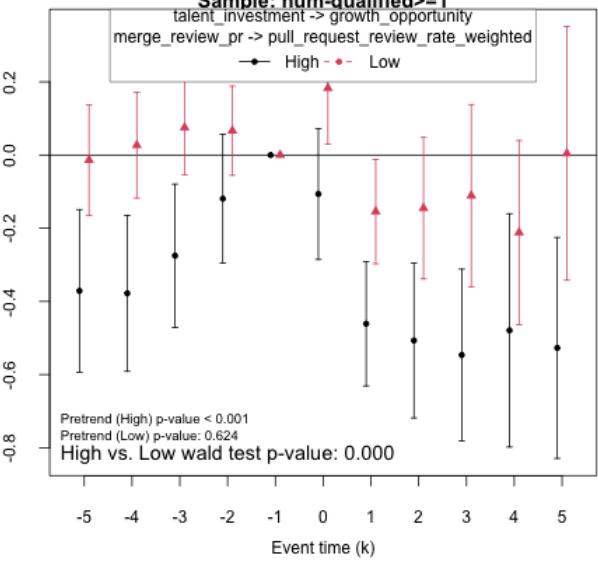


### overall\_new\_release\_count rolling5

Sample: num-qualified>=1

talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_review\_rate\_weighted

● High - ● Low

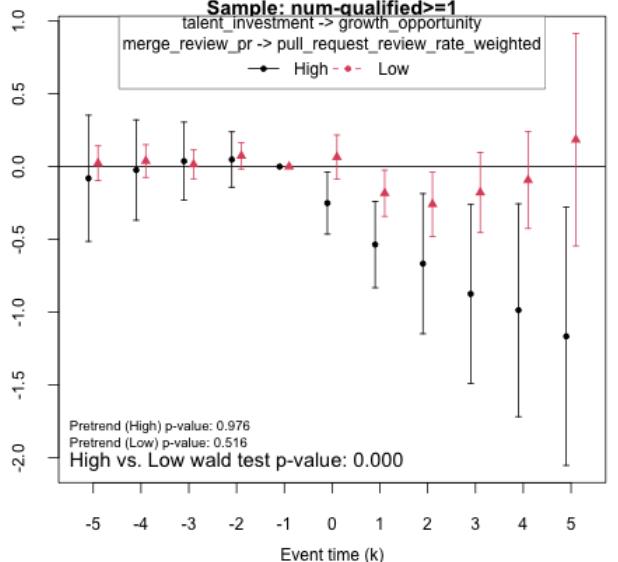


### pull\_request\_merged rolling5

Sample: num-qualified>=1

talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_review\_rate\_weighted

● High - ● Low

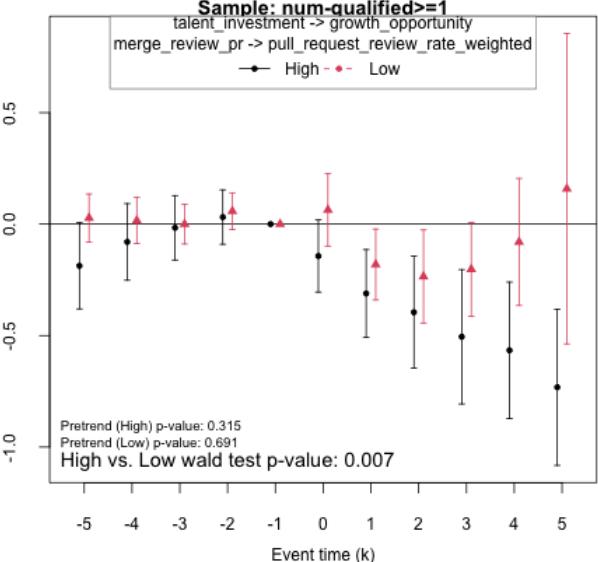


### pull\_request\_opened rolling5

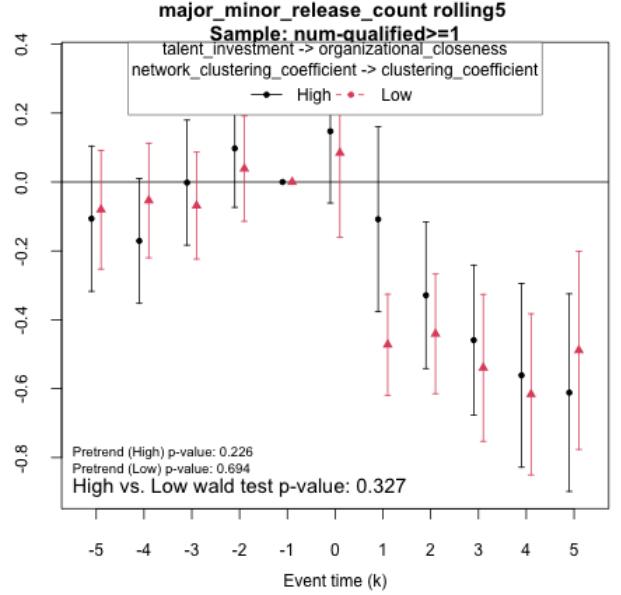
Sample: num-qualified>=1

talent\_investment->growth\_opportunity  
merge\_review\_pr -> pull\_request\_review\_rate\_weighted

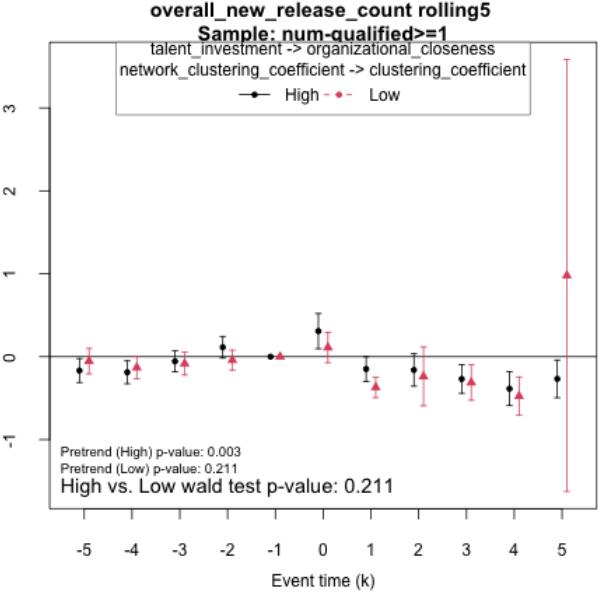
● High - ● Low



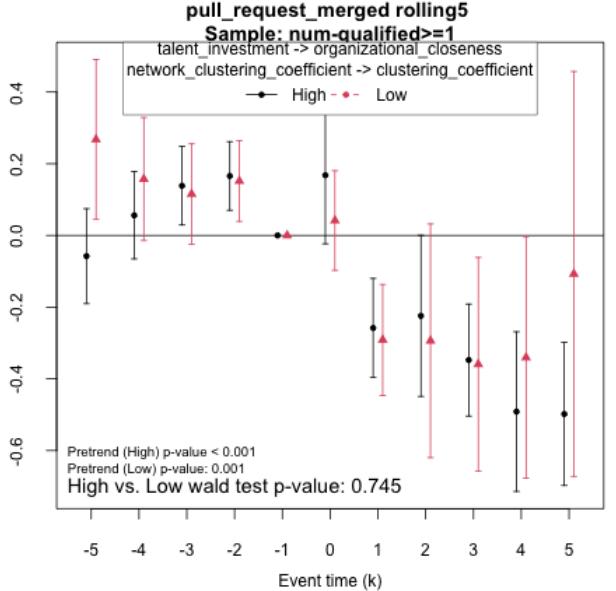
### major\_minor\_release\_count rolling5



### overall\_new\_release\_count rolling5



### pull\_request\_merged rolling5



### pull\_request\_opened rolling5

