The following is the code used to run the data in the article.

```
* 合并数据虚拟变量
clear
cd E:\数据
use 基础控制变量 10-22.dta
merge 1:m stkcd year using 上市公司债券基本情况 10-22.dta, keepusing(GByear)
drop if _merge==2
bys stkcd: egen n=mean(_merge)
drop if n==1
drop _merge n
bys stkcd: fillmissing GByear
duplicates drop stkcd year, force
gen Treat=0
replace Treat=1 if GByear!=.
label var Treat "个体虚拟变量"
gen Post=0
replace Post=1 if year>=GByear
label var Post "时间虚拟变量"
gen DID=Treat*Post
label var DID "核心解释变量"
merge 1:1 stkcd year using 企业风险承担 10-22.dta, nogen keep(3)
gen Risk=Risk1
label var Risk "企业风险承担"
merge m:1 stkcd using 新能源企业.dta, nogen keep(1 3) keepusing(NE)
merge m:1 stkcd using 泛新能源企业.dta, nogen keep(1 3) keepusing(PNE)
sort stkcd year
//save 基础数据 10-22.dta, replace
keep if year>=2014 & year<=2022
drop if Risk==.
missings list Size Lev ROA Cashflow Growth Board Indep Dual Top1 Occupy ListAge
sum
save 基础数据 14-22.dta, replace

* 基准回归
cd E:\数据
use 基础数据 14-22.dta, clear

* 描述性统计
cd E:\结果
sum2docx Risk DID Treat Post $controls if Risk!=. using 描述性统计.docx, ///
      replace stats(N mean(%9.4f) sd(%9.4f) min(%9.4f) median(%9.4f) max(%9.4f))
shellout using `"描述性统计.docx"'
/// landscape font("宋体",10,"black") pagesize(A4)
```

```
sum Risk Treat Post $controls if Risk!=.
logout, save(描述性统计.doc)word replace: ///
        tabstat Risk Treat Post $controls if Risk!=. , ///
        s(N mean sd min median max) f(%12.4f) c(s)
unique stkcd if Treat==1 //统计绿债企业数量
//分步回归
cd E:\结果
qui reghdfe Risk DID , absorb(stkcd year) vce(robust)
outreg2 using  基准回归.docx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
local control1 = " Size Lev ROA Cashflow Growth "
qui reghdfe Risk DID `control1' , absorb(stkcd year) vce(robust)
outreg2 using  基准回归.docx, append tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
local control2 = " Board Dual Top1 Occupy ListAge "
qui reghdfe Risk DID `control2' , absorb(stkcd year) vce(robust)
outreg2 using  基准回归.docx, append tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
global controls = " `control1' `control2' "
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using  基准回归.docx, append tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
shellout using `"基准回归.docx"'
//测算结果
cd E:\风险承担
merge 1:1 stkcd year using "测算结果.dta", nogen keep(1 3)
global controls = " Size Lev ROA Cashflow Growth Board Indep Dual Top1 ListAge "
cd E:\结果
qui reghdfe Risk1 $controls DID , absorb(stkcd year) vce(robust)
outreg2 using "基准回归.doc", replace tstat bdec(3) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
local Risk = " risk1 risk2 risk3 risk4 risk5 risk6 "
foreach y of local Risk {
    qui reghdfe `y' DID $controls , absorb(stkcd year) vce(robust)
    outreg2 using "基准回归.doc", append tstat bdec(3) tdec(2) ///
            ctitle(`y') addtext(Company FE, YES, Year FE, YES)
}
shellout using `"基准回归.doc"'
//逐步回归
cd E:\结果
qui reghdfe Risk DID , absorb(stkcd year) vce(robust)
outreg2 using "基准回归.doc", replace tstat bdec(3) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
global controls ""
```

```
global controls = " Size Lev ROA Cashflow Growth Board Indep Dual Top1 ListAge "
foreach v of local controls {
	global controls $controls `v'
	qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
	outreg2 using "基准回归.doc", append tstat bdec(3) tdec(2) ///
		ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
}
shellout using `"基准回归.doc"'

* 相关性分析
logout, save(相关性分析.doc)word replace: pwcorr_a Risk DID $controls

* 多重共线性检验
reg Risk DID $controls
estat vif
logout, save(多重共线性检验.doc)word replace: vif

* 平行趋势检验
cd E:\数据
use 基础数据 10-22.dta, clear
keep if year>=2014 & year<=2022
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
//判断政策时期
gen pd=year-GByear
tab pd
forvalues i=8(-1)1{
	gen pre`i'=(pd==-`i'&Treat==1)
}
gen current=(pd==0)
forvalues i=1(1)6{
	gen post`i'=(pd==`i'&Treat==1)
}
//截断回归 pre4-2 post1-3
replace pre4=1 if pre5==1 | pre6==1 | pre7==1 | pre8==1
replace post3=1 if post4==1 | post5==1 | post6==1
reghdfe Risk $controls  pre4-pre2 current post1-post3 , absorb(stkcd year) vce(robust)
est sto reg
coefplot reg, keep (pre* current post*) vertical recast(connnet) yline(0) xline(4,lp(dash)) ///
		addplot(line @b @at) ciopts(lpattern(dash) recast(rcap) msize(medium))
msymbol(circle_hollow) scheme(s1mono) ///
		ytitle(回归系数,size(small),) xtitle(绿色债券发行时点,size(small))
cd E:\结果
graph save 平行趋势检验.gph, replace
graph export 平行趋势检验.png, replace
```

```
//逐期回归
reghdfe Risk $controls pre* current post*, absorb(stkcd year) vce(robust)
reghdfe Risk $controls pre10-pre2 current post*, absorb(stkcd year) vce(robust)
est sto reg
coefplot reg, keep (pre* current post*) vertical recast(connnet) yline(0) xline(10,lp(dash)) ///
                ytitle(回归系数,size(simall)) xtitle(绿色债券发行时点,size(small))

* 机制分析

* 治理水平
cd E:\数据
use 基础数据 14-22.dta, clear
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
merge 1:1 stkcd year using 治理水平 10-22.dta, nogen keep(1 3)
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 治理水平.xlsx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
foreach v of varlist Mshare Mshares Mfee Occupy ATO Dturn *Msalary* *Mperk* *Incentive* {
    qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
    outreg2 using 治理水平.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(`v') addtext(Company FE, YES, Year FE, YES)
    gen x_`v'=DID*`v'
    qui reghdfe Risk DID $controls x_`v' , absorb(stkcd year) vce(robust)
    outreg2 using 治理水平.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(DID_`v',Risk) addtext(Company FE, YES, Year FE, YES)
    qui reghdfe Risk DID $controls `v' x_`v' , absorb(stkcd year) vce(robust)
    outreg2 using 治理水平.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
    egen m_`v'=median(`v')
    qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
    outreg2 using 治理水平.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
    qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
    outreg2 using 治理水平.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
    drop m_`v' x_`v'
}
shellout using `"治理水平.xlsx"'
//输出结果 ： 管理费用率 管理层持股比例 监管层前三名薪酬占比
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 治理水平.docx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
```

```
foreach v of varlist Mfee Mshare Msalary3 {
	qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
	outreg2 using  治理水平.docx, append tstat bdec(4) tdec(2) ///
		ctitle(`v') addtext(Company FE, YES, Year FE, YES)
}
foreach v of varlist Mshare {
	egen m_`v'=median(`v')
	qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
	outreg2 using  治理水平.docx, append tstat bdec(4) tdec(2) ///
		ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
	qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
	outreg2 using  治理水平.docx, append tstat bdec(4) tdec(2) ///
		ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
	drop m_`v'
}
shellout using `"治理水平.docx"'

* 信息环境
cd E:\数据
use  基础数据 14-22.dta, clear
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
merge 1:1 stkcd year using  信息环境 10-22.dta, nogen keep(1 3)
merge 1:1 stkcd year using ESG 评级_华证 10-22.dta, nogen keep(1 3)
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using  信息环境.xlsx, replace tstat bdec(4) tdec(2) ///
	ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
foreach v of varlist INST AnaAttention AnA ReportAttention ReA Opacity *CSRR* *CQ* ESG {
	qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
	outreg2 using  信息环境.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(`v') addtext(Company FE, YES, Year FE, YES)
	gen x_`v'=DID*`v'
	qui reghdfe Risk DID $controls x_`v' , absorb(stkcd year) vce(robust)
	outreg2 using  信息环境.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(DID_`v',Risk) addtext(Company FE, YES, Year FE, YES)
	qui reghdfe Risk DID $controls `v' x_`v' , absorb(stkcd year) vce(robust)
	outreg2 using  信息环境.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
	egen m_`v'=median(`v')
	qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
	outreg2 using  信息环境.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
	qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
	outreg2 using  信息环境.xlsx, append tstat bdec(4) tdec(2) ///
```

```
                ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
        drop m_`v' x_`v'
}
shellout using `"信息环境.xlsx"'
//输出结果 ： 机构投资者持股比例 被分析师关注度 上市公司透明度
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 信息环境.docx, replace tstat bdec(4) tdec(2) ///
            ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
foreach v of varlist INST AnA Opacity {
        qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
        outreg2 using 信息环境.docx, append tstat bdec(4) tdec(2) ///
                ctitle(`v') addtext(Company FE, YES, Year FE, YES)
}
foreach v of varlist Opacity {
        egen m_`v'=median(`v')
        qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
        outreg2 using 信息环境.docx, append tstat bdec(4) tdec(2) ///
                ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
        qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
        outreg2 using 信息环境.docx, append tstat bdec(4) tdec(2) ///
                ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
        drop m_`v'
}
shellout using `"信息环境.docx"'

* 绿色创新
cd E:\数据
use 基础数据 14-22.dta, clear
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
merge 1:1 stkcd year using 绿色创新 10-22.dta, nogen keep(1 3)
merge 1:1 stkcd year using 绿色全要素生产率 10-23.dta, nogen keep(1 3) keepusing(LP)
merge 1:1 stkcd year using 研发投入 10-23.dta, nogen keep(1 3)
gen Gis=GInv/GUma
label var Gis "绿色创新结构_申请"
gen Gis2=GInv2/GUma2
label var Gis2 "绿色创新结构_授权"
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 绿色创新.xlsx, replace tstat bdec(3) tdec(2) ///
            ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
local 申请 = " GInv LnGInv GUma LnGUma Green LnGreen "
local 授权 = " GInv2 LnGInv2 GUma2 LnGUma2 Green2 LnGreen2 "
local 占比 = " EPR InvtEPR UtyEPR EPR2 InvtEPR2 UtyEPR2 "
foreach v of varlist `申请' `授权' `占比' LP *Gis* *RD* {
```

```
	qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(`v') addtext(Company FE, YES, Year FE, YES)
	gen x_`v'=DID*`v'
	qui reghdfe Risk DID $controls x_`v' , absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(DID_`v',Risk) addtext(Company FE, YES, Year FE, YES)
	qui reghdfe Risk DID $controls `v' x_`v' , absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
	egen m_`v'=median(`v')
	qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
	qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
	drop m_`v' x_`v'
}
shellout using `"绿色创新.xlsx"'
//输出结果 ：绿色发明专利申请数量 绿色实用新型专利申请数量 绿色创新结构
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 绿色创新.docx, replace tstat bdec(4) tdec(2) ///
	ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
foreach v of varlist GInv GUma Gis {
	qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.docx, append tstat bdec(4) tdec(2) ///
		ctitle(`v') addtext(Company FE, YES, Year FE, YES)
}
drop if GInv==0 & GUma==0
foreach v of varlist Gis {
	egen m_`v'=median(`v')
	qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.docx, append tstat bdec(4) tdec(2) ///
		ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
	qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
	outreg2 using 绿色创新.docx, append tstat bdec(4) tdec(2) ///
		ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
	drop m_`v'
}
shellout using `"绿色创新.docx"'

* 融资约束
cd E:\数据
```

```
use 基础数据 10-22.dta, clear
keep if year>=2014 & year<=2022
global controls = " Size Lev ROA Cashflow Growth Board Indep Dual Top1 ListAge "
merge 1:1 stkcd year using 融资约束-22.dta, nogen keep(1 3)
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 融资约束.xlsx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
foreach v of varlist Cost Loan FC KZ SA WW {
    qui reghdfe `v' DID $controls , absorb(stkcd year) vce(robust)
    outreg2 using 融资约束.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(`v') addtext(Company FE, YES, Year FE, YES)
    gen x_`v'=DID*`v'
    qui reghdfe Risk DID $controls x_`v' , absorb(stkcd year) vce(robust)
    outreg2 using 融资约束.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(DID_`v',Risk) addtext(Company FE, YES, Year FE, YES)
    qui reghdfe Risk DID $controls `v' x_`v' , absorb(stkcd year) vce(robust)
    outreg2 using 融资约束.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
    egen m_`v'=median(`v')
    qui reghdfe Risk DID $controls if `v'>m_`v', absorb(stkcd year) vce(robust)
    outreg2 using 融资约束.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(High `v',Risk) addtext(Company FE, YES, Year FE, YES)
    qui reghdfe Risk DID $controls if `v'<=m_`v', absorb(stkcd year) vce(robust)
    outreg2 using 融资约束.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(Low `v',Risk) addtext(Company FE, YES, Year FE, YES)
    drop m_`v' x_`v'
}
shellout using `"融资约束.xlsx"'

* 异质性分析
cd E:\数据
use 基础数据 14-22.dta, clear
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)

* 产权性质 SOE
qui reghdfe Risk DID $controls if SOE==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(SOE_1,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if SOE==0, absorb(stkcd year) vce(robust)
```

```
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(SOE_0,Risk) addtext(Company FE, YES, Year FE, YES)

* 是否四大 Big4
qui reghdfe Risk DID $controls if Big4==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(Big4_1,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if Big4==0, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(Big4_0,Risk) addtext(Company FE, YES, Year FE, YES)

* 是否为重污染行业 IFHP
inlist2 行业代码, values(B06,B07,B08,B09,C17,C19,C22,C25,C26,C27,C28,C30,C31,C32,C33,D44) name(IFHP)
qui reghdfe Risk DID $controls if IFHP==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(IFHP_1,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if IFHP==0, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(IFHP_0,Risk) addtext(Company FE, YES, Year FE, YES)

* 是否为新能源行业 PNE
replace PNE=0 if PNE==.
qui reghdfe Risk DID $controls if PNE==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(PNE_1,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if PNE==0, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(PNE_0,Risk) addtext(Company FE, YES, Year FE, YES)

* 地区 Province
inlist2 Province,values(北京市,天津市,河北省,辽宁省,上海市,江苏省,浙江省,福建省,山东省,广东省,海南省) name(East)
inlist2 Province,values(山西省,吉林省,黑龙江省,河南省,湖北省,湖南省,安徽省,江西省) name(Middle)
inlist2 Province,values(内蒙古自治区,重庆市,四川省,广西壮族自治区,贵州省,云南省,陕西省,甘肃省,青海省,宁夏回族自治区,新疆维吾尔自治区,西藏自治区) name(West)
qui reghdfe Risk DID $controls if East==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(3) tdec(2) ///
        ctitle(East,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if Middle==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(3) tdec(2) ///
        ctitle(Middle,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if West==1, absorb(stkcd year) vce(robust)
```

```
outreg2 using 异质性分析.xlsx, append tstat bdec(3) tdec(2) ///
        ctitle(West,Risk) addtext(Company FE, YES, Year FE, YES)

* 政策 Policy
inlist2 Province,values(浙江省,江西省,广东省,贵州省,新疆维吾尔自治区) name(Policy)
qui reghdfe Risk DID $controls if Policy==1, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(3) tdec(2) ///
        ctitle(Policy_1,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls if Policy==0, absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.xlsx, append tstat bdec(3) tdec(2) ///
        ctitle(Policy_0,Risk) addtext(Company FE, YES, Year FE, YES)

* 输出结果
cd E:\结果
inlist2 行 业 代 码 ,
values(B06,B07,B08,B09,C17,C19,C22,C25,C26,C27,C28,C30,C31,C32,C33,D44) name(IFHP)
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 异质性分析.docx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
foreach i of varlist SOE Big4 IFHP {
    qui reghdfe Risk DID $controls if `i'==1, absorb(stkcd year) vce(robust)
    outreg2 using 异质性分析.docx, append tstat bdec(4) tdec(2) ///
            ctitle(`i'_1,Risk) addtext(Company FE, YES, Year FE, YES)
    qui reghdfe Risk DID $controls if `i'==0, absorb(stkcd year) vce(robust)
    outreg2 using 异质性分析.docx, append tstat bdec(4) tdec(2) ///
            ctitle(`i'_0,Risk) addtext(Company FE, YES, Year FE, YES)
}
shellout using `"异质性分析.docx"'

* 稳健性检验
cd E:\数据
use 基础数据 14-22.dta, clear
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using 稳健性检验.xlsx, replace tstat bdec(4) tdec(2) ///
        ctitle(Risk) addtext(Company FE, YES, Year FE, YES)

* 替换被解释变量
local risk = " Risk2 Risk3 Risk4 risk1 risk2 risk3 risk4 "
foreach i of local risk {
    qui reghdfe `i' DID $controls , absorb(stkcd year) vce(robust)
    outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
            ctitle(`i') addtext(Company FE, YES, Year FE, YES)
```

```
}

* 行业固定效应
qui reghdfe Risk DID $controls , absorb(stkcd year Industry) vce(robust)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(Industry FE,Risk) addtext(Company FE, YES, Year FE, YES,Industry FE, YES)
gen indus_year=Industry*year
qui reghdfe Risk DID $controls , absorb(stkcd year indus_year) vce(robust)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(Industry*year FE,Risk) addtext(Company FE, YES, Year FE, YES,Industry*Year FE, YES)

* 省份固定效应
qui reghdfe Risk DID $controls , absorb(stkcd year Province) vce(robust)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(Province FE,Risk) addtext(Company FE, YES, Year FE, YES,Province FE, YES)
gen prov_year=Province*year
qui reghdfe Risk DID $controls , absorb(stkcd year prov_year) vce(robust)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(Province*year FE,Risk) addtext(Company FE, YES, Year FE, YES,Province*Year FE, YES)

* 企业聚类稳健标准误
qui reghdfe Risk DID $controls , absorb(stkcd year) cluster(stkcd)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(vce stkcd,Risk) addtext(Company FE, YES, Year FE, YES)

* 行业聚类稳健标准误
qui reghdfe Risk DID $controls , absorb(stkcd year) cluster(Industry)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(vce Industry,Risk) addtext(Company FE, YES, Year FE, YES)

* 控制环境治理变量
cd E:\数据
merge 1:1 stkcd year using ESG 评级_华证 10-22.dta, nogen keep(1 3)
merge 1:1 stkcd year using 环境治理 10-22.dta, nogen keep(1 3)
cd E:\结果
qui reghdfe Risk DID $controls ESG EPI1 , absorb(stkcd year) vce(robust)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(control,Risk) addtext(Company FE, YES, Year FE, YES)
qui reghdfe Risk DID $controls GS1 GC , absorb(stkcd year) vce(robust)
outreg2 using 稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
        ctitle(control,Risk) addtext(Company FE, YES, Year FE, YES)
```

```
* 反事实处理
forvalues i=1(1)4 {
	gen time_`i'=GByear-`i' //绿债发行时间提前 i 年
	gen post_`i'=0 if year<time_`i'
	replace post_`i'=1 if post_`i'==.
	gen did_`i'=Treat*post_`i'
	qui reghdfe Risk did_`i' $controls , absorb(stkcd year) vce(robust)
	outreg2 using  稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(time_`i',Risk) addtext(Company FE, YES, Year FE, YES)
	drop time_`i' post_`i' did_`i'
}
forvalues i=1(1)4 {
	gen time`i'=GByear+`i' //绿债发行时间滞后 i 年
	gen post`i'=0 if year<time`i'
	replace post`i'=1 if post`i'==.
	gen did`i'=Treat*post`i'
	qui reghdfe Risk did`i' $controls , absorb(stkcd year) vce(robust)
	outreg2 using  稳健性检验.xlsx, append tstat bdec(4) tdec(2) ///
		ctitle(time`i',Risk) addtext(Company FE, YES, Year FE, YES)
	drop time`i' post`i' did`i'
}
shellout using `"稳健性检验.xlsx"'

* 输出结果
merge 1:1 stkcd year using ESG 评级_华证 10-22.dta, nogen keep(1 3)
merge 1:1 stkcd year using  环境治理 10-22.dta, nogen keep(1 3)
cd E:\结果
qui reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
outreg2 using  稳健性检验.docx, replace tstat bdec(4) tdec(2) ///
	ctitle(Risk) addtext(Company FE, YES, Year FE, YES)
//替换被解释变量
qui reghdfe Risk4 DID $controls , absorb(stkcd year) vce(robust)
outreg2 using  稳健性检验.docx, append tstat bdec(4) tdec(2) ///
	ctitle(Risk,Risk4) addtext(Company FE, YES, Year FE, YES)
//控制系统性因素影响
gen indus_year=Industry*year
gen prov_year=Province*year
qui reghdfe Risk DID $controls , absorb(stkcd year indus_year) vce(robust)
outreg2 using  稳健性检验.docx, append tstat bdec(4) tdec(2) ///
	ctitle(Risk,Industry*year FE) addtext(Company FE, YES, Year FE, YES,Industry*Year
FE, YES)
qui reghdfe Risk DID $controls , absorb(stkcd year prov_year) vce(robust)
outreg2 using  稳健性检验.docx, append tstat bdec(4) tdec(2) ///
	ctitle(Risk,Province*year FE) addtext(Company FE, YES, Year FE, YES,Province*Year
```

```
FE, YES)
//控制企业层面的稳健标准误
qui reghdfe Risk DID $controls , absorb(stkcd year) cluster(stkcd)
outreg2 using  稳健性检验.docx, append tstat bdec(4) tdec(2) ///
        ctitle(Risk,vce stkcd) addtext(Company FE, YES, Year FE, YES)
//控制企业和地方其他环境治理行为
qui reghdfe Risk DID $controls EPI3 GS3 , absorb(stkcd year) vce(robust)
outreg2 using  稳健性检验.docx, append tstat bdec(4) tdec(2) ///
        ctitle(Risk,controls2) addtext(Company FE, YES, Year FE, YES)

*  安慰剂检验
cd E:\数据
use  基础数据 14-22.dta, clear
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
cap erase  安慰剂检验.dta
permute DID beta=_b[DID] se=_se[DID] df=e(df_r) ,reps(500) seed(500) ///
saving(安慰剂检验.dta): reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)

//虚构对照组
cd E:\数据
use  安慰剂检验.dta, clear
gen t_value=beta/se
gen p_value=2*ttail(df,abs(beta/se))

//系数+p 值
cd E:\结果
#delimit ;
  twoway (scatter p_value beta, msymbol(smcircle_hollow)) (kdensity beta, yaxis(2)),
        xline(0, lc(black*0.5) lp(solid))
        xlabel(-0.006(0.002)0.006, labsize(small))
        xtitle("Estimator", size(*0.8))
        yline(0.05, lc(black*0.5) lp(dash))
        ylabel(, nogrid format(%4.1f) labsize(small))
        ylabel(, nogrid format(%4.1f) axis(2) labsize(small))
        ytitle("P_Value", size(*0.8) axis(1))
        ytitle("Density", size(*0.8) axis(2))
        legend(r(1) order(1 "P_Value" 2 "Estimator") size(small))
        graphregion(fcolor(white))
        saving(安慰剂检验, replace);
#delimit cr

//回归系数
#delimit ;
  dpplot beta, note("") caption("") graphregion(color(white))
```

```
        xtitle("Estimator", size(*0.8)) xlabel(-0.007(0.002)0.007, labsize(small))
        xline(-0.006, lc(black*0.5) lp(dash)) xline(0, lc(black*0.5) lp(solid))
        ytitle("Density", size(*0.8)) ylabel(, nogrid format(%4.1f) labsize(small));
#delimit cr

* 倾向得分匹配
cd E:\数据
use 基础数据 14-22.dta, clear
// psestimate
psestimate Treat Size, totry( Lev ROA Cashflow TobinQ BM Board Indep Dual Top1 ListAge FirmAge INST ) noquad
global xlist = " Size Lev Cashflow BM ListAge Board Top1 "
logistic Treat $xlist , coef
predict p
gen q=log((1-p)/p) //logit 转换后的倾向得分是一般意义上的倾向得分
set seed 20000 //设置随机种子
gen ranorder=runiform() //生成随机变量
sort ranorder //对随机变量进行排序

* 最近相邻匹配
bootstrap r(att) r(ate) r(atu), rep(100): psmatch2 Treat $xlist , outcome(Risk) neighbor(4) common odds logit ate

* 卡尺范围内的最邻匹配
sum q //计算标准差
di 0.25*1.089267 //计算卡尺值
bootstrap r(att) r(ate) r(atu), rep(100): psmatch2 Treat $xlist , radius caliper(.272) outcome(Risk) neighbor(4) common odds logit ate

* 卡尺范围内的最邻匹配的马氏距离匹配
bootstrap r(att) r(ate) r(atu), rep(100): psmatch2 Treat, mahalanobis($xlist), radius caliper(.272) outcome(Risk) neighbor(4) common odds logit ate

//平衡性检验: |bias|为偏差降低程度，越大越好；t 值，匹配前显著，匹配后不显著；原假设是对照组和实验组没有显著差异。
pstest $xlist , both graph
//共同取值范围绘图
psgraph
//核密度函数图
twoway (kdensity _Risk if _treat==1, legend(label(1 "实验组"))) (kdensity _Risk if _treat==0, legend(label(2 "控制组"))),xtitle("倾向得分") title("匹配前") scheme(burd)
graph save tu1, replace
twoway (kdensity _Risk if (_treat==1), legend(label(1 "实验组"))) (kdensity _Risk if (_treat==0 & _wei!=.),legend(label(2 "控制组"))),xtitle("倾向得分") title("匹配后") scheme(burd)
```

```
graph save tu2, replace
graph combine tu1.gph tu2.gph, scheme(burd)

//PSM-DID
drop if _weight==. //去除未匹配上的样本
global controls = " Size Lev ROA Cashflow Growth Board Dual Top1 Occupy ListAge "
reghdfe Risk DID $controls , absorb(stkcd year) vce(robust)
cd E:\结果
outreg2 using  稳健性检验.docx,append tstat bdec(4) tdec(2) ///
        ctitle(Risk,PSM-DID) addtext(Company FE, YES, Year FE, YES)
shellout using `"稳健性检验.docx"'
```