Can Environmental Regulation Promote Firm's Green Technological Innovation? —A Test of the Porter Hypothesis

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二．成果简介：

This study uses DID to analyze the impact of the 2015 new “Environmental Protection Law” on the green technological innovation of Chinese listed firms, and test whether the Porter hypothesis is true. Research shows that based on the samples selected in this study, Porter hypothesis is not valid. Specifically, the implementation of the 2015 new “Environmental Protection Law” inhibited the green technological innovation of heavy-polluting firms, and some methods such as PSM-DID, shortening the time span, and counter-factual analysis also support the above conclusions. From the regression results by group, whether it is based on the baseline model or PSM-DID, compared with state-owned firms, the negative inhibition has a more significant impact on non-state-owned firms.

三．主要研究内容及创新点：

Porter hypothesis believes that appropriate environmental regulation can promotes firms to carry out green technological innovation, thereby establishing a competitive advantage in the green market. In order to test whether Porter hypothesis exists, this study takes the implementation of the 2015 new “Environmental Protection Law” as a quasi-natural experiment, based on the 2010-2020 data of Chinese listed firms, adopts difference-in-difference (DID) to test the impact of environmental regulations on firm’s green technological innovation and we find the implementation of the 2015 new “Environmental Protection Law” inhibited heavy-polluting firm’s green technological innovation. We also increase the robustness of the conclusions through randomly generating experimental group and other methods. Figure 1 shows the result of the parallel trend test. It can be seen that the coefficients of the dummy variables are not significant before 2015 (current), and they are significant after 2015, which verify the premise. Figure 2 shows the result of randomly generating experimental group. It can be seen that the absolute value of t value obtained from 1000 simulations are almost smaller than that of t value (-2.82) obtained using real data. This result shows that the policy effects are not caused by other factors, the implementation of the law does have a significant negative effect on the green technological innovation of heavy-polluting firms.

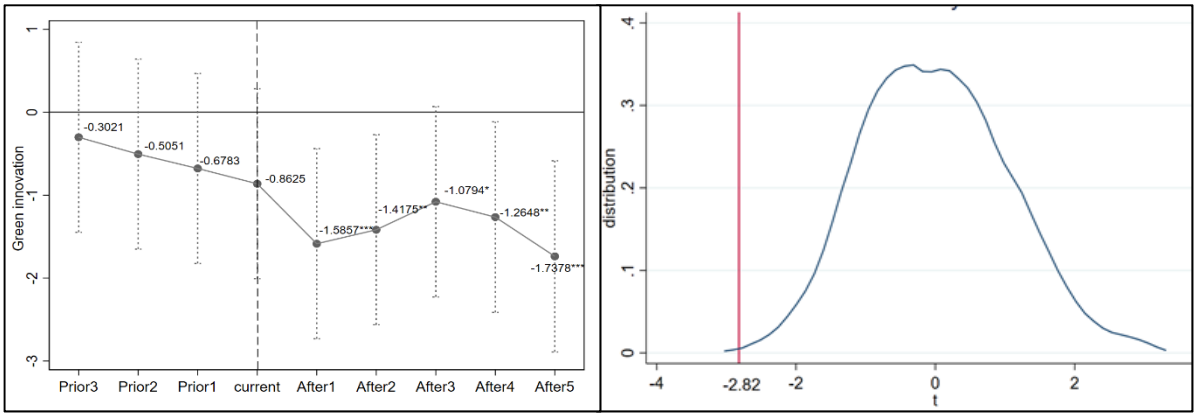


Figure 1. The result of the parallel trend test Figure 2. The distribution of t value in 1000 simulations

四．主要研究成果及应用情况

Can Environmental Regulation Promotes Firm's Green Technological Innovation? —A Test of the Porter Hypothesis，会议论文，未发表。

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