Green Finance and Climate Policy

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This version: March 16, 2019

Abstract

A rapidly increasing amount of investment commits firms to undertake climate-friendly projects. Recent empirical evidence suggests that the development of green finance—and the associated certification process—makes a real difference: (1) firms that issue green bonds improve their environmental performance, in particular by reducing their CO2 emissions; (2) these bonds are issued at a (small) premium, attracting environmentally concerned investors; (3) surprisingly, the market value of firms that issue green bonds increase. Now more than ever, green finance is hoped to help governments meet their commitments to combat climate change. However, there exists no formal study that considers green finance as an alternative tool to address the climate problem. We present a model that consistently explains stylized facts. We examine firms that maximize their shareholder value by undertaking green and brown projects, and finance the former by issuing green bonds. Green projects emit less CO2 but entail abatement costs. Investors differ by their concern for environmental performance. Neither firms' fundamental profit nor abatement cost are perfectly observed by investors. Besides the environmental impact of green bonds, our theory suggests that green bonds allow firms to signal to investors their ability to efficiently reduce their CO2 emissions. We use our model to examine the optimal structure of climate policy. In the presence of climate finance, the optimal carbon tax is lower. If, for some reasons, the implementation of carbon taxation is limited, it becomes optimal to promote green finance accordingly.

JEL Codes: D53; D83; G38; Q54.

Keywords: Green finance; Green bonds; Climate policy; Carbon taxation.

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