INCENTIVES OF COMMERCIAL BANKS TO FINANCE ENERGY EFFICIENCY

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Overview

An increasing number of banks offer energy efficiency loans. These loans differ from traditional loans in that they require technical expertise to determine the potential of a project to reduce energy usage, thus creating the "savings" that will be used to repay the loan. These energy efficiency loans are increasing in popularity in part because public banks promote energy efficiency lending through commercial banks. Although there is a large literature on bank lending decisions, no known literature investigates the determinants of how banks make decisions with respect to offering energy efficiency loans. The purpose of this paper is to examine the incentives and requirements of commercial banks related to energy efficiency lending.

Methods

Germany, Bulgaria, Poland and Ukraine are used as case studies because commercial banks are active in providing energy efficiency loans in these countries. Semi-structured interviews were conducted with experts in retail banking, commercial banking and controlling from 27 banks. Based on the interviews, an analytic model is developed to assess the trade-off banks face between additional fixed transaction cost for demand development and benefits from portfolio diversification and associated lower capital requirements. In the model, a representative bank maximises its lending profits. The choice of the lending portfolio is constrained by the requirement to cover the associated risk with equity. To calibrate the model, information is used from the interviews.

Results

Three main differences are identified between energy efficiency investments and traditional lending project types:

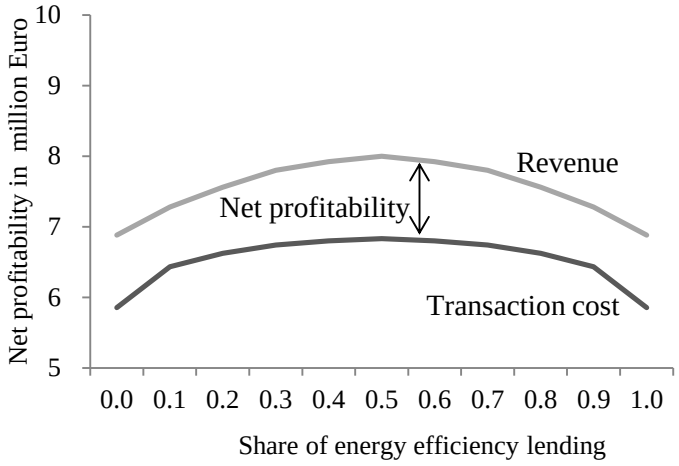
First, in absence of any policy interventions, cost-effective energy efficiency investments are not realised due to information asymmetries and principal agent problems (Jaffe et al., 1994; Carbon Trust, 2005b). To overcome these barriers and to initiate the market, public banks provide energy efficiency lending at preferential provisions. They often do so through commercial banks so as to enhance subsequent commercial up take. In Germany, commercial banks reported that serving as an intermediary of the Kreditinstitut für Wiederaufbau (KfW), the national public bank, is attractive, because it provides the opportunity to enhance customer relationships by offering preferential energy efficiency loans in combination with their own products. In addition, some banks initiated their own energy efficiency loans. In Bulgaria, Poland and Ukraine, the European Bank for Reconstruction and Development (EBRD) provides energy efficiency loans via commercial banks. Although the loans are offered at commercial rates, they can be attractive to commercial banks since they mainly refinance themselves through deposits and the EBRD provides longer term credit lines in addition to free technical assistance. Furthermore, banks can combine these loans with their own products.

Second, energy efficiency lending is a new field of investment with unconventional revenue streams deriving from (energy) cost savings. This requires banks to quantify risks associated with energy price developments and benefits resulting from energy savings (Palmer et al., 2012). These savings can increase the value of the building or the equipment and consequently also the value of the collateral that the bank uses to secure the loan in case of default; they can also allow for portfolio diversification and thereby reduce banks' capital requirements. According to the interviews, however, most banks do not consider energy efficiency specifics in their creditworthiness or lending portfolio assessment.

Third, energy efficiency investments require technical expertise to assess energy savings and depend on energy service markets (IPCC, 2007). In Bulgaria, Poland and Ukraine, the EBRD employs a technical assistance team that trains bankers and supports them in organizing client visits, assessing energy savings and developing the project pipeline. In Germany, KfW allocates the energy savings assessment to certified energy service providers in order to reduce transaction costs for banks.

Based on the interviews, an analytic model is developed to assess the trade-off banks face between additional fixed transaction cost for demand development and benefits from portfolio diversification and associated lower capital requirements. The model assumes that introducing energy efficiency loans into the lending portfolio involves some additional fixed cost for the bank. Setting up a new loan programme requires information campaigns, staff training and demand development. Once loan products have been integrated into the standard processes of a bank, transaction costs decline for each additional loan. At the same time, the composition of the lending portfolio is constrained, as the risks need to be covered by equity. This offers opportunities to reduce the credit risk associated with the portfolio through diversification. Figure 1 depicts the net profitability for portfolios that equally meet the capital requirements (area between lines revenue and transaction cost). If all effects are jointly considered, energy efficiency lending can pay off for the banks, once a certain scale is achieved.

Figure 1: Transaction cost and revenue of potential lending portfolios that meet capital requirements



Conclusions

According to these findings, two aspects are important in order to encourage banks to upscale energy efficiency lending: first, the requirement for banks to monetise energy savings in order to account for the benefit of low risk in the lending portfolio and, second, the need for energy efficiency programmes to reach a certain scale so that energy efficiency lending pays off. This in turn may require policy support in order to catalyse market development and to reach the necessary scale. It remains open for further research to explore existing policies, e.g. the Green Deal energy saving loans in the UK where the energy savings pay for the costs of finance.

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