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Discriminatory fees, coordination and investment in shared ATM networks
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Since their introduction in the late sixties Automated Teller Machines (ATMs) have been the subject of policy debates and regulation in many countries. A major issue is the welfare effect of cash withdrawal fees and the partial incompatibility generated by the discriminatory nature of some of these fees. In ATM markets, compatibility depends on whether consumers can use their cards with other banks' ATM machines. This compatibility can be reduced by imposing retail fees on "foreign" transactions, i.e. transactions on ATMs that are not owned by the bank to which the consumer is affiliated. Such fees can be levied by the consumer's own bank (foreign fees) and/or the bank owning the ATM (surcharges), and may affect consumer welfare in two opposing ways. On the one hand, consumers are harmed as it is more costly to derive benefits from the rival banks' ATMs. On the other hand, they may benefit if discriminatory fees cause banks to increase investment in their ATM networks to gain from increased stand-alone ATM fee revenues as well as strategic interactions with the deposit market.

This paper empirically examines the effects of discriminatory fees on ATM investment and welfare. In addition, the role of coordination in ATM investment between banks is considered. Although most countries have in common that ATMs of different banks have been interconnected or shared relatively quickly after their initial introduction, considerable variation in countries' ATM market structures has existed (and still exists). This variation concerns not only the fee structure of the market, but also the degree of coordination in ATM investment between banks.

Using a unique data set that consists of ATM-level cash withdrawal demand as well as branch, ATM and consumer location characteristics a spatial model of consumer cash withdrawal demand and ATM investment is estimated. The model is estimated in a setting where banks coordinate ATM investment and retail fees for cash withdrawals are absent. Based on these model estimates detailed spatial predictions can be made in terms of cash withdrawals and ATM investment, allowing the authors to perform counterfactuals to assess the effects of changing the degree of coordination in ATM investment between banks and the introduction of discriminatory withdrawal fees.

The main findings are that foreign fees and surcharges appear to result in opposite directions for ATM investment and welfare changes. Foreign fees tend to reduce ATM availability and (consumer) welfare, whereas surcharges positively affect ATM availability and the different welfare components when the consumers' price elasticity is not too large. Second, an organization of the ATM market that contains some degree of coordination between the banks may be desirable from a welfare perspective. Finally, ATM availability is always higher when a social planner decides on discriminatory fees and ATM investment to maximize total welfare. This implies that there is underinvestment in ATMs, even in the presence of discriminatory fees.

The policy implications of these findings are clear. First, the focus of policy makers in Europe and the U.S. should not only be on surcharges, but also, and perhaps even more, on foreign fees. Second, encouraging rather than limiting coordination among banks in terms of ATM investment may be socially more beneficial.

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