Determinants of banks’ risk exposure to new account fraud – Evidence from Germany

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This paper studies empirically the determinants of new account fraud risk within two dimensions: the probability of fraud, and the expected and unexpected (monetary) loss-per-account due to fraud. By fraud risk, we mean the risk that a bank fails to enforce a debt because the identity of the person incurring the debt cannot be ascertained. Using a unique and rich data set of account applicants, provided by a German Internet-only bank, we find that fraud risk is highly sensitive to demographic and socio-economic variables like nationality, gender, marital status, age, occupation, and urbanisation. For example, foreigners are 22.25 times more likely to commit account fraud than Germans, and men are 2.5 times more risky than women.

1. Introduction

New account fraud, which involves the criminal using a false identity, made-up or stolen, to open a new account, typically to obtain a credit card or loan, is becoming a serious concern in our information-based economy. According to official statistics from the German Federal Criminal Police Office, the total costs to banks of new account fraud increased from €13 million in 1999 to over €35 million in 2006. Furthermore, a recent survey conducted by the US Federal Trade Commission (FTC, 2007) studies the prevalence of identity theft (i.e., the misuse of another individual’s personal information to commit fraud). Besides existing account fraud, in which a thief takes over or appropriates an existing account or credit relationship (e.g., credit card fraud), the other major subcategory of identity theft is new account fraud, in which a thief uses personal information to open new accounts and credit relationships in the victim’s name. Among other things, the survey found that 0.8% of survey participants, representing 1.8 million American adults, reported that in 2005 they had discovered that their personal information had been misused to open new accounts or to engage in types of fraud other than the misuse of existing accounts in the victim’s name. In addition, the survey indicates that new account fraud is typically much more costly than existing account fraud. Where the identity thieves opened new accounts, the median value of goods and services obtained by the thieves was $1350, with 10% of the victims reporting that the thief obtained $15,000 or more. In contrast, where the ID theft was limited to the misuse of existing accounts – either credit card or non-credit card – the median value of goods and services obtained was less than $500.

In this paper, we study empirically the factors that determine the extent of new account fraud risk. We define fraud risk as the risk that a debt cannot be enforced because the identity of the person incurring the debt cannot be ascertained. This is distinct from credit risk, which is the risk that an identified debtor cannot or will not discharge his debt. Our empirical exercise is based on a unique data set containing information (e.g., gender, age, employment, marital status, etc.) for more than 203,000 individuals that applied for a checking account by a major German Internet-only bank. In particular, we have information on whether the applicant subsequently (after account opening) turned out to be a fraudster or not, and on the total loss to the bank caused by each fraudster. We use this information to study fraud risk within two dimensions: first in terms of fraud probabilities, and second in terms of monetary fraud losses.

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1 Although we can rely on a rich data set, our findings are subject to one caveat. Since we have no information about rejected applicants, the resulting sample selection effect can possibly bias our estimates of fraud risk determinants. However, we expect any such bias, if even existing, to be far less prevalent within an Internet-only bank applying formalized and automated customer selection procedures, compared to a traditional brick-and-mortar bank relying more on “soft” information to establish a credit relationship.