BANKING LOAN PORTFOLIO EQUILIBRIUM MIX: A MARKOV CHAIN APPROACH

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Abstract

This research article presents an optimal loan allocation mix policy from the steady state distribution of loan disbursement process. Using monthly data on actual loan disbursement of four loan types for a period of twenty-four months, an estimated transition probability matrix of the movement of one loan type to another has been obtained using an optimization technique. It is from this transition probability matrix that the steady state distribution of loan disbursement process has been obtained. Express and Savings Loans, a Savings and Loans Company in Ghana is used as our case study. Some of the loans they offer are trade, service, production and susu loans. The estimated transition matrix showed that the probability of loan switching from service to trade is the highest (1.000) while loan switching from trade to production is the lowest (0.026). Probability of no loan switching for trade was (0.731) while the probability of no loan switching for service, production and susu cannot be made in one time period due to its zero probability. From the estimated probability transition matrix, the steady state distribution indicated that in the long run, trade loan should constitute 77.3% of the total loan, 10.3% for service loan, 2.0% for production loan and 10.4% for susu loan.