1116-39-2405   **Marco Hamins-Puertolas*** (`mghaminspuertola@smcm.edu`), **Jessie Conrad**, **Genesis Islas**, **Adrien Bossogo-Egoume**, **Christopher Kribs** and **Benjamin Morin**. *Minimizing recidivism by optimizing profit: a theoretical case study of incentivized reform in a Louisiana prison.*

Recidivism is the phenomenon where an individual returns to criminal activity after being released from prison. Many prisoners in the U.S. end up back in jail within 5 years. Using Louisiana as a case study, we show that prison management can minimize recidivism by subsidizing reform programs in for-profit prisons. Accounting for such an incentive program allows us to observe alterations in prison profit optimization. Within the model, the prison alters the proportion of time that each inmate spends in the reform program. The incarceration dynamics respond to the average proportion of time that prisoners spend in reform. We determine that the prison's profit is the most sensitive to the value of the incentive, the fixed cost per prisoner, the effectiveness of the instated reform program, the number of first time offenders currently in the prison, and the per diem rate per prisoner the prison receives from the state. Prisons with higher initial incomes require a larger incentive to obtain the same results as their less profitable neighbors. The reduction in recidivism has diminishing returns as the incentive is increased. (Received September 22, 2015)