Junk e-mail (spam)-- a nonzero sum game

Some people are making a lot of money by sending electronic junk mail. Ordinary papermail costs upwards of 50 cents a piece to deliver to the target, so response rates have to be reasonable for it to be cost effective. Electronic mail is delivered largely at the recipients' expense, so it is not unusual for someone to send 5 million e-mails, making money on response rates in the hundredths of a percent. This inconsiderate disregard for other peoples' time and bandwidth only works out if the victims are unable to retaliate. That's why the return addresses are usually fake or unreachable.

Suppose everyone got into the game and we were all bombarded with 5 million e-mails a week selling better sex and get-rich-quick schemes? As a simplification, consider Joe and Harry inflicting unsolicited e-mail on each other containing offers from third parties..

The choices are responsible promotion, Spam or heavy bombardment broadcasting. This third option involves expensive equipment and legal defenses against the FCC. Not only is it expensive, but the resulting congestion could "bring the Internet to its knees."

Joe controls which row. His profit is shown in the upper left of each cell. Harry controls which column. His profit is shown in the lower right of each cell. Please note that each party wants to MAXIMIZE the value of his own benefit, and doesn't care what the other person gets. Work shown must agree with your answers.

Spam Profits- A Prisoner's dilemma game

Joe / Harry	Harry responsible	Harry Spam	Harry Bombard	Harry's best choice
Joe responsible promotion	60 / / 55	15 / / 80	0 / / 70	
Joe Spam	85 / / 15	25 / / 25	5 / / 10	
Joe Bombard	80 / / 2	15 / / 5	0 / / 0	
Joe's best choice				

Use squares for Joe and circles for Harry to show which strategies would prevail if each one only chose to maximize his benefit without considering the overall outcome on the system. What does the prisoners' dilemma type model predict as a stable solution from this inconsiderate behavior? (Big hint to keep you from doing it backwards: The answer is NOT that they would both be responsible!)

Joe would:

Harry would:

What would total profits for each be for this solution?

What combination would be the best? How could they maintain that solution?