

## Dynamics of games

### Project 3: Blotto Games: Gross-Wagner

Let  $M(x, y) = \sum_{i=1}^n a_i \text{sgn}(x_i - y_i)$ .

Case I.  $n = 2$  and  $B = E$ . Since  $n = 2$  we have  $M(x, y) = a_1 \text{sgn}(x_1 - y_1) + a_2 \text{sgn}(x_2 - y_2)$ . Writing  $x = x_1, y = y_1$  then since  $B = E$  this gives

$$M(x, y) = a_1 \text{sgn}(x - y) + a_2 \text{sgn}(y - x).$$

$$\int_0^1 M(x, y)$$