Boosting and the Minmax Theorem

- γ -weak learning assumption:
 - · for every distribution on examples
 - can find weak classifier with weighted error $\leq \frac{1}{2} \gamma$
- equivalent to:

(value of game
$$\mathbf{M}$$
) $\geq \frac{1}{2} + \gamma$

- by minmax theorem, implies that:
 - \exists some weighted majority classifier that correctly classifies all training examples with margin $\geq 2\gamma$
 - further, weights are given by maxmin strategy of game M