

# GV103: Introduction to International Relations



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Coordination Problems

# Introduction

- Two goals for this lecture
  - Provide general understanding of **coordination problems**
  - Discuss how they explain why there isn't more cooperation

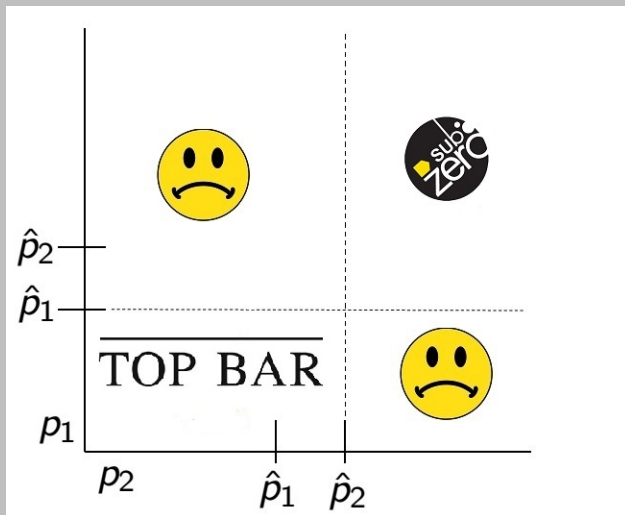
# A Model of Coordination

		<u>TOP BAR</u>
	$\underline{\beta}, \bar{\beta}$	0, 0
<u>TOP BAR</u>	0, 0	$\bar{\beta}, \underline{\beta}$

# Analysis

- Suppose 1 believes 2 will choose Sub Zero w/ probability  $p_2$
- 1 chooses Sub Zero iff  $E(u_1(\text{Sub Zero})) > E(u_1(\text{Top Bar}))$
- Equivalent to  $p_2 \underline{\beta} + (1 - p_2)0 > p_2(0) + (1 - p_2)\bar{\beta}$
- Or  $p_2 > \hat{p}_2$  where  $\hat{p}_2 \equiv \frac{\bar{\beta}}{\bar{\beta} + \underline{\beta}}$
- Similarly, 2 chooses Sub Zero iff  $p_1 \geq \hat{p}_1$ , where  $\hat{p}_1 \equiv \frac{\underline{\beta}}{\bar{\beta} + \underline{\beta}}$

# Visualizing the Results



# Applications

- Organic food prior to 2012
- Formats for electronics