

## On strategy-proof social choice correspondences

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I am grateful to Carmelo Rodríguez-Álvarez for pointing out my error in Sato (2007). In Sect. 3, the definition of  $\succsim^{\min}$  and  $\succsim^{\max}$  should be changed as follows: For  $A = \{a_1, \dots, a_k\}$  and  $B = \{b_1, \dots, b_h\}$ ,

- assume  $a_k P a_{k-1} P \dots P a_2 P a_1$  and  $b_h P b_{h-1} \dots P b_2 P b_1$ , then

$$A \succsim^{\min} B \iff \left\{ \begin{array}{l} \exists l \leq (\min\{k, h\} + 1)/2 : \left[ \begin{array}{l} a_l P b_l \text{ or } \left[ \begin{array}{l} a_l = b_l \\ a_{k-l+1} P b_{h-l+1} \end{array} \right] \\ a_m = b_m, a_{k-m+1} = b_{h-m+1} \quad \forall m < l \end{array} \right] \\ \text{or} \\ \left[ \begin{array}{l} k \geq h \\ \forall m \leq (h + 1)/2, \left[ \begin{array}{l} a_m = b_m \\ a_{k-m+1} = b_{h-m+1} \end{array} \right] \end{array} \right] \end{array} \right.$$

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- assume  $a_1 Pa_2 P \cdots Pa_{k-1} Pa_k$  and  $b_1 Pb_2 P \cdots Pb_{h-1} Pb_h$ , then

$$A \succsim^{\max} B$$

$$\iff \left\{ \begin{array}{l} \exists l \leq (\min\{k, h\} + 1)/2 : \left[ \begin{array}{l} a_l Pb_l \text{ or } \left[ \begin{array}{l} a_l = b_l \\ a_{k-l+1} Pb_{h-l+1} \end{array} \right] \\ a_m = b_m, a_{k-m+1} = b_{h-m+1} \quad \forall m < l \end{array} \right] \\ \text{or} \\ \left[ \begin{array}{l} k \leq h \\ \forall m \leq (k + 1)/2, \left[ \begin{array}{l} a_m = b_m \\ a_{k-m+1} = b_{h-m+1} \end{array} \right] \end{array} \right] \end{array} \right.$$

Accordingly, the following changes are needed.

*Example 3.1* On  $\mathcal{A}, \succsim^{\max}$  does not coincide with  $\succsim^{\text{top}}$ .  $\succsim^{\max}$  is such that  $\{x_1, x_5\} \succ^{\max} \{x_1, x_4, x_5\} \succ^{\max} \{x_2, x_3, x_5\} \succ^{\max} \{x_3\}$  whereas  $\succsim^{\text{top}}$  is such that  $\{x_1, x_4, x_5\} \succ^{\text{top}} \{x_1, x_5\} \succ^{\text{top}} \{x_2, x_3, x_5\} \succ^{\text{top}} \{x_3\}$ . (This change does not affect the other parts of the example.)

*Proof of Theorem 3.2* The proof is similar to the proof of Theorem 3.1. To show that  $x_2 \in F(R_N)$ , we derive a contradiction to  $x_2 \notin F(R_N)$  as follows: if  $\{x_1, x_{|X|}\} = F(R_N)$ , then  $F(R'_2, R_{-2}) \succ_2^{\min} F(R_N)$ . Otherwise,  $F(R'_2, R_{-2}) \succ_2^{\max} F(R_N)$ . These are contradictions to  $E^{BPX}$  strategy-proofness.