Definition (Partial order $\preceq_V$ on valuations). For two valuations $\boldsymbol{v}_1, \boldsymbol{v}_2 : \mathcal{A} \to$ **UDP**, say that $\boldsymbol{v}_1 \preceq_V \boldsymbol{v}_2$ if $\boldsymbol{v}_1(a) \preceq_{\mathbf{UDP}} \boldsymbol{v}_2(a)$ for all $a \in \mathcal{A}$.