$$\text{FixFunMinResBack}(f \mathbin{\fatsemi_{\mathbf{Pos}_{\mathcal{U}}}} g)(x^*, z) = z \in (f \mathbin{\fatsemi_{\mathbf{Pos}_{\mathcal{U}}}} g)^{\star}(x)$$

$$= z \in \bigcup_{y \in f^{\star}(x)} g^{\star}(y).$$