$$\int_{-\bar{\epsilon}}^{\bar{\epsilon}} w(\tilde{m}) \cdot \frac{d\tilde{m}}{1+2\bar{\epsilon}} = \int_{-\bar{\epsilon}}^{\bar{\epsilon}} (q_+(\tilde{m}) - q_-(\tilde{m})) \cdot \frac{d\tilde{m}}{1+2\bar{\epsilon}} \tag{1}$$