

Define  $R_{i,j} =$

$$\mathbb{E}_{\{\} \rightarrow \{i,j\}} \left[ \tilde{\hbar} a_j b_i, \tilde{\hbar} x_j y_i, e^{\wedge} \left( \sum_{k=2}^{k+1} \frac{\left(1 - e^{\gamma \in \tilde{\hbar}}\right)^k \left(\tilde{\hbar} y_i x_j\right)^k}{k \left(1 - e^{k \gamma \in \tilde{\hbar}}\right)} \right) \right]_{\$k}$$