

```

QZipgs_List@ $\mathbb{E}[L_-, Q_-, P_-] :=$ 
Module[{ $\xi$ , z, zs, c, ys,  $\eta s$ , qt, zrule, Q1, Q2},
zs = Table[ $\xi^*$ , { $\xi$ , gs}];
c = Q /. Alternatives @@ (gs  $\cup$  zs)  $\rightarrow$  0;
ys = Table[ $\partial_{\xi}(Q /.$  Alternatives @@ zs  $\rightarrow$  0), { $\xi$ , gs}];
 $\eta s$  = Table[ $\partial_z(Q /.$  Alternatives @@ gs  $\rightarrow$  0), {z, zs}];
qt = Inverse@Table[K $\delta_{z,\xi^*} - \partial_{z,\xi}Q$ , { $\xi$ , gs}, {z, zs}];
zrule = Thread[zs  $\rightarrow$  qt.(zs + ys)];
Q2 = (Q1 = c +  $\eta s.zs /.$  zrule) /. Alternatives @@ zs  $\rightarrow$  0;
CF /@  $\mathbb{E}[L, Q2, \text{Det}[qt] e^{-Q2} \text{Zip}_{gs}[e^{Q1} (P /.$  zrule)]];
]

```