Definition 0.0.1 (Radon–Nikodym density process)**.** The **Radon–Nikodym density process** $\eta = (\eta_t)_{t\in[0,T]}$ of $\mathbb{Q}$ with respect to $\mathbb{P}$ and a given filtration $\mathcal{F}$ is defined by setting

$$\eta_t := \mathbb{E}^{\mathbb{P}}(\eta_T \mid \mathcal{F}_t), \quad \forall t \in [0,T]$$