$$
\begin{array}{ccc}
V_y \times \{t_1\} & \xrightarrow{\ \widetilde{F}_{y,1}|_{V_y \times \{t_1\}}\ } & T \\[2pt]
& {\scriptstyle \widetilde{F}_{y,2}} \nearrow & \\[-2pt]
\Big\downarrow & & \Big\downarrow p \\[6pt]
V_y \times [t_1, t_2] & \xrightarrow[\ F|_{V_y \times [t_0, t_1]}\ ]{} & X
\end{array}
$$