

$$\begin{array}{ccc}
 V_y \times \{0\} & \xrightarrow{\tilde{f}|_{V_y \times \{0\}}} & T \\
 \downarrow & \nearrow \tilde{F}_y & \downarrow p \\
 V_y \times [0, 1] & \xrightarrow{F|_{V_y \times [0, 1]}} & X
 \end{array}$$