



VC





**MC**

AVC

ATC





MR





P

e

ATC



AVC





FC

$P_e$

$<$

AVC

$<$

ATC



Revenue less than VC

$$P_e \times Q \leq AVC \times Q \leq ATC \times Q$$



TR <

VC <

TC







Firm incurs a loss **larger** than the FC



TR

Firm incurs a loss **larger** than the  
loss if it **shuts down**

The firm should shut down in the short run and if the price does not increase, the firm should exit in the long run

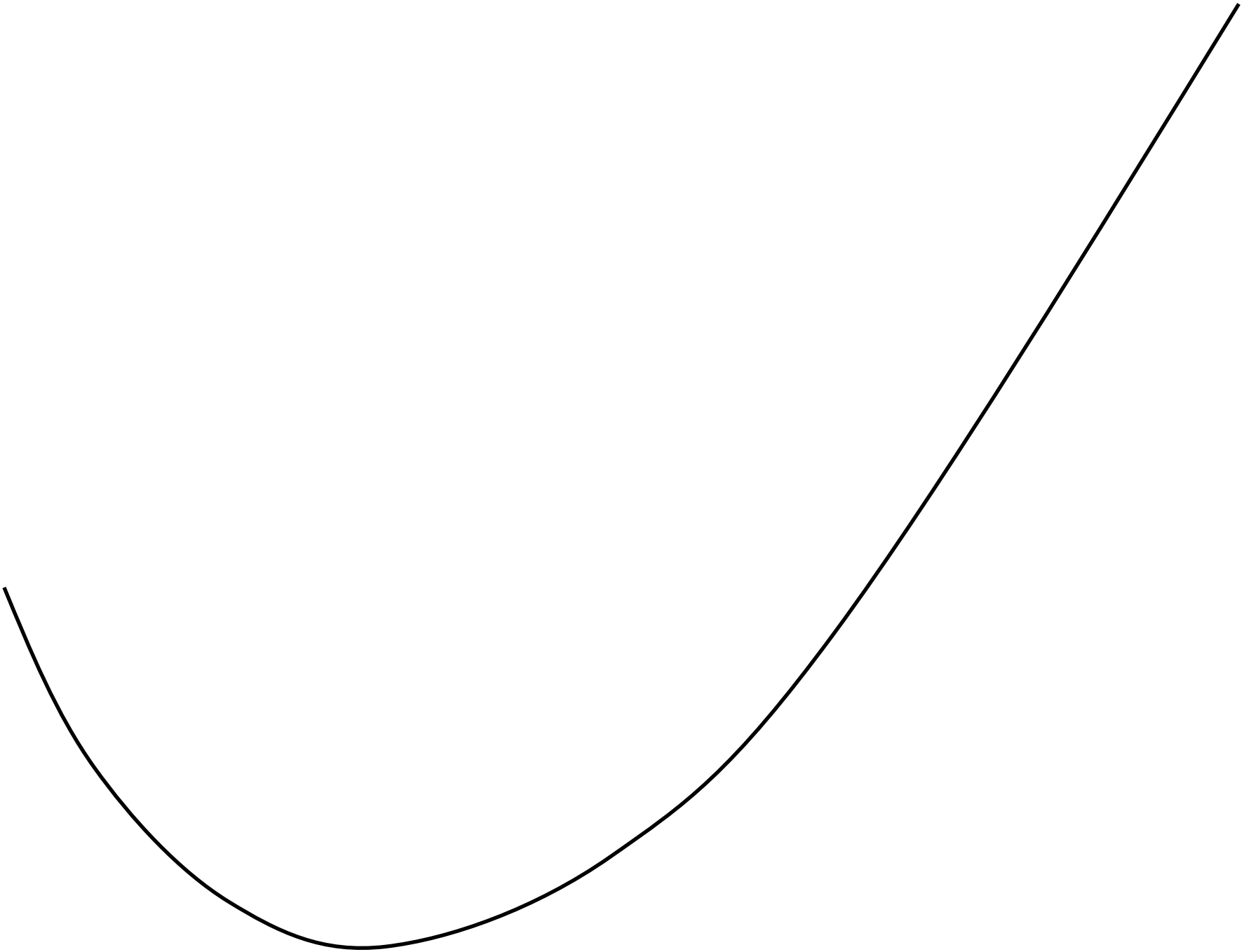
Loss

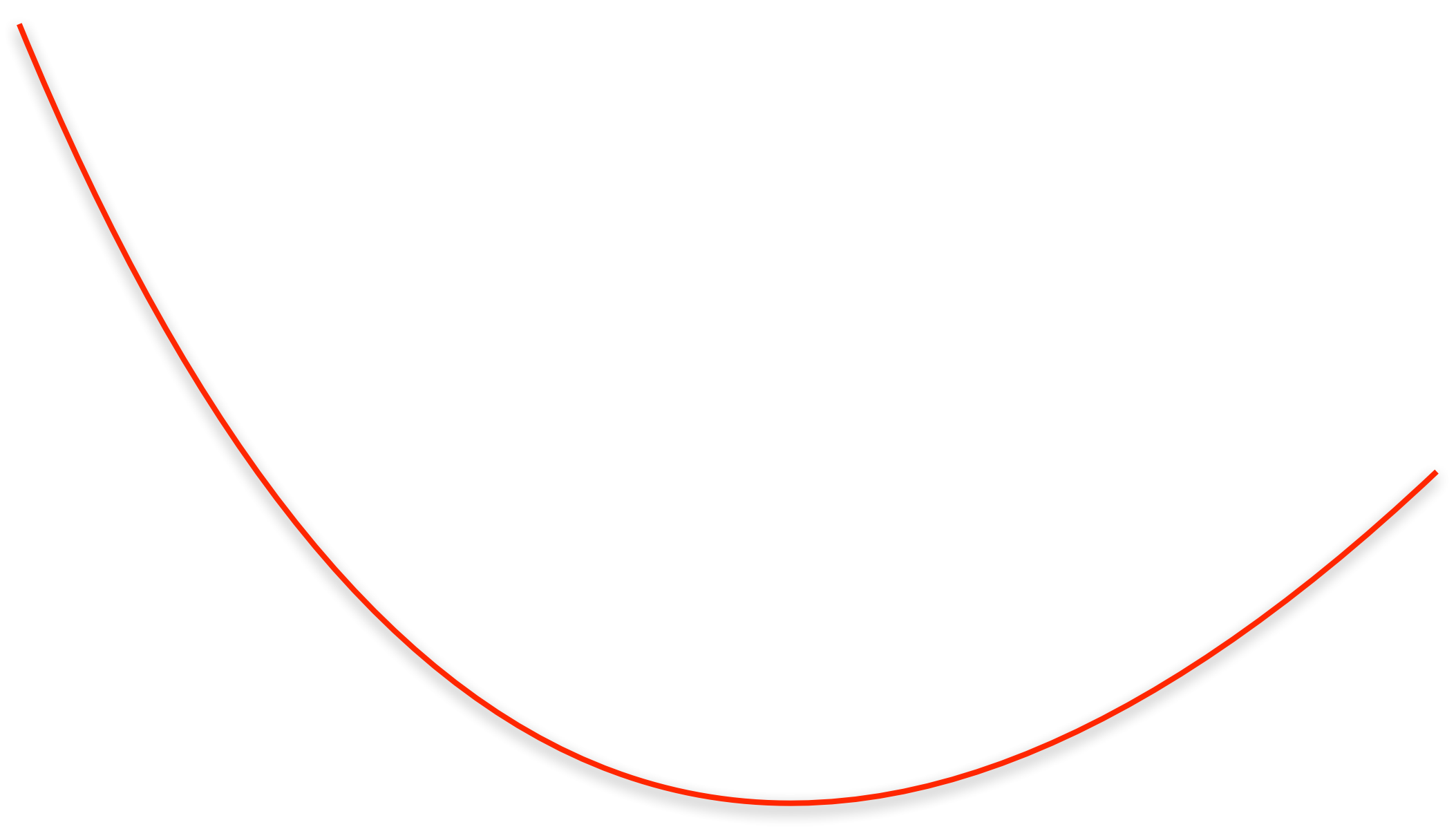


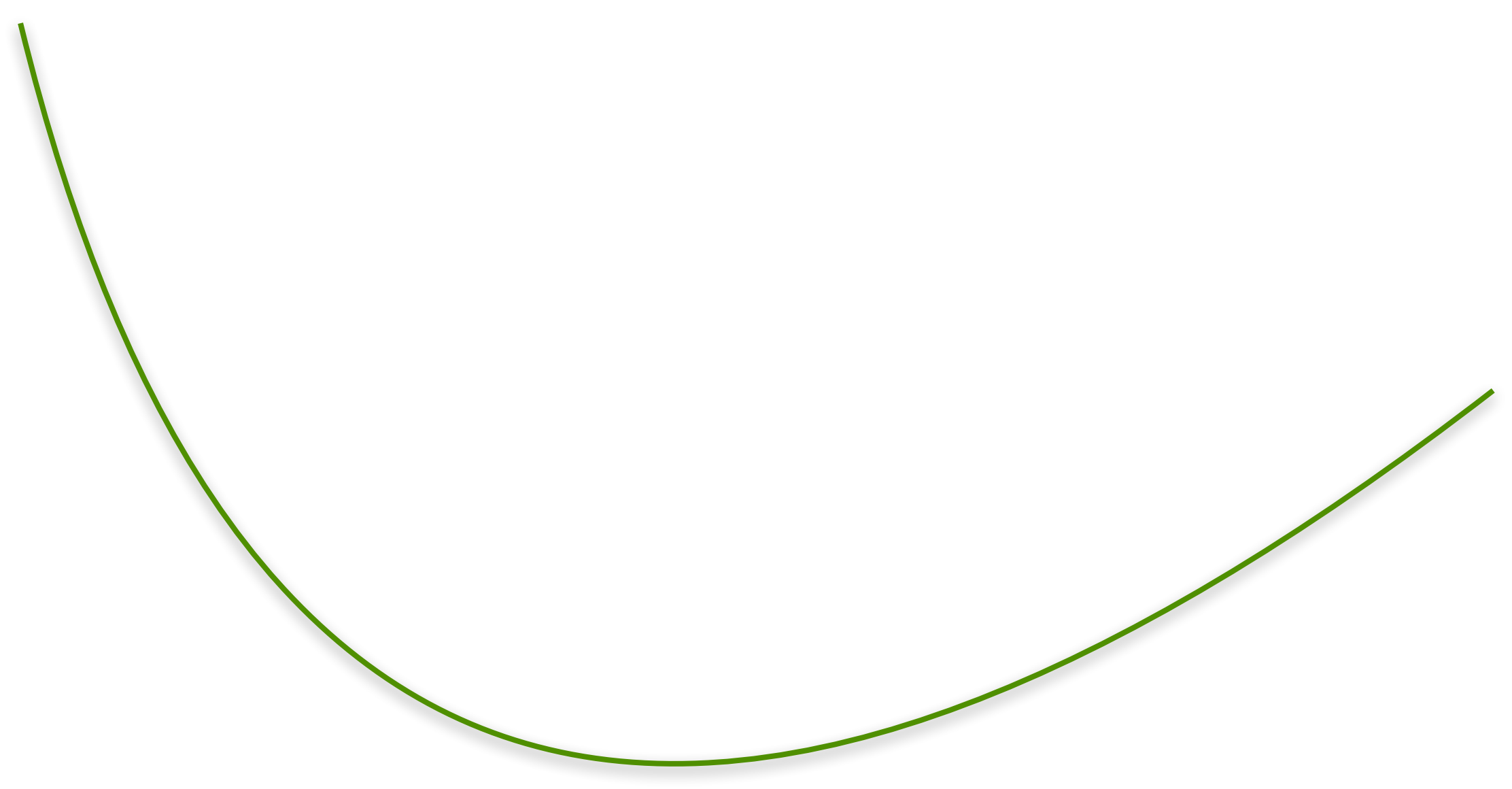










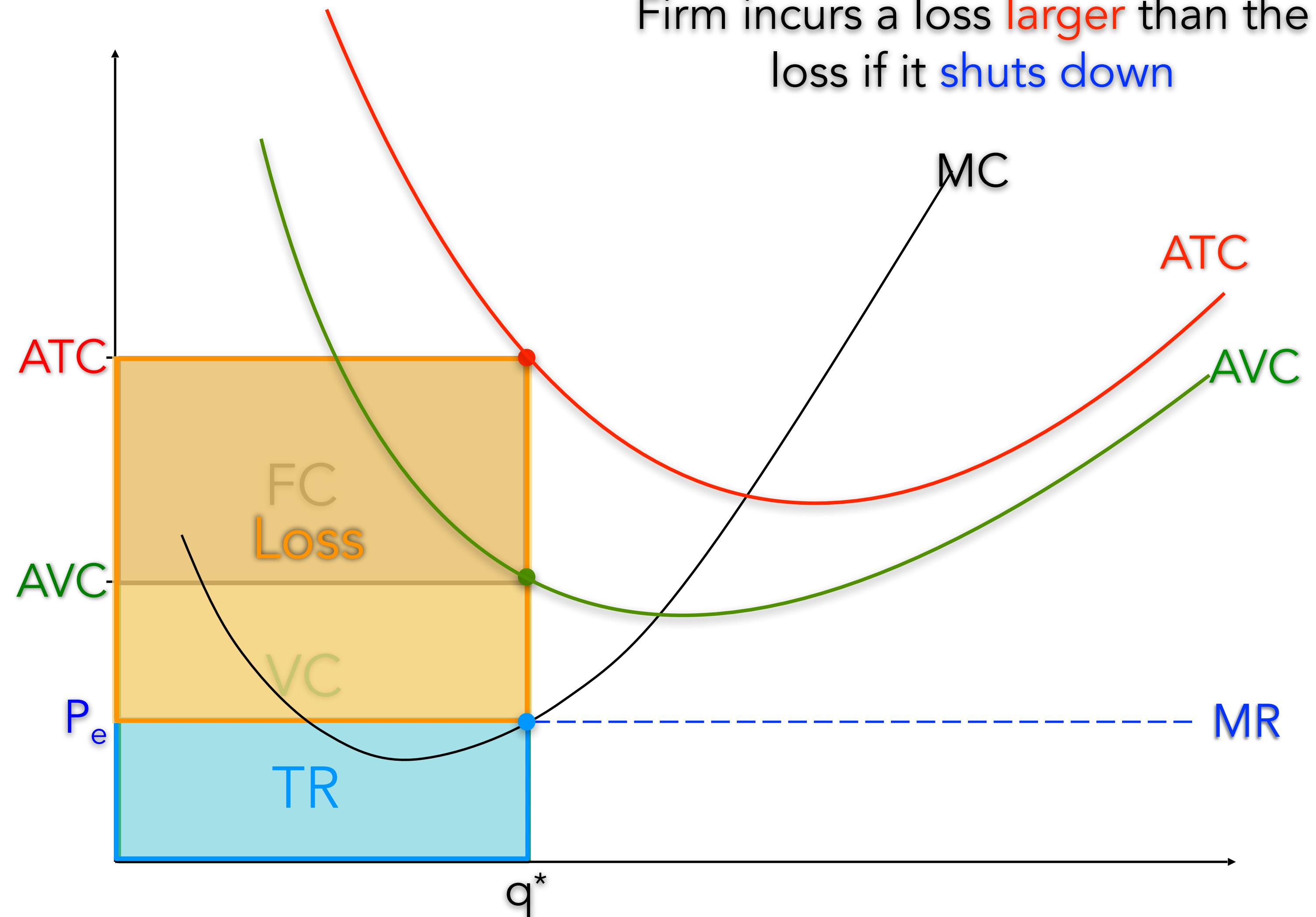




$$P_e < AVC < ATC \quad \Rightarrow \quad \underbrace{P_e \times Q}_{TR} < \underbrace{AVC \times Q}_{VC} < \underbrace{ATC \times Q}_{TC} \quad \Rightarrow \quad \text{Firm incurs a loss larger than the FC}$$

Firm incurs a loss **larger** than the loss if it **shuts down**

The firm should **shut down** in the **short run** and if the price does not increase, the firm should **exit** in the **long run**



# The Firm's Short Run Decision

