STC(Q) = TVC(Q) + SFC + NSFC if Q>0, otherwise

STC(Q) = SFC if Q = 0

When should Q>0 :

- let Q\* satisfy p = MC(Q\*), MC(Q\*) is increasing

- then compare pQ\* - STC(Q\*) (i.e. pQ\*-TVC(Q\*)-SFC-NSFC) and -SFC

Produce Q\*>0 if pQ\*>TVC(Q\*)+NSFC, so p> (TVC(Q\*)+NSFC)/Q\*, so p>AVC(Q\*)+NSFC/Q\*

The solution to firm’s profit max problem is

set Q = Q\* where 1) p = M(Q\*), 2) MC is increasing at Q\*

set Q = 0 if p =< AVC(Q\*)+NSFC/Q\*

