12.4 The Value of a Forward Contract
Holding a forward contract, may have positive or negative value. 

at $t = 0$, a price $F(0)$ is written into contract.

At $t = T$, the buyer will pay $F(0)$ to seller.
The contract is signed at $t = 0$ with no exchange of funds.

As time goes on, the spot price for the same asset changes with time, but $F(0)$ in contract is fixed.

Holding the contract at time $t = T$ is worth $f(T) = S(T) - F(0)$ to the buyer.

At $t = 0$, the value of the contract is $f(0) = 0$.

Claim: $f(t) = (F(t) - F(0)) d(t, T)$, is value of contract at time $t$.

Price written into contracts for same asset, delivery at time $t$. 

value to 

buyer of \( f(t) \), 

asset, 

of holding 

contract.

This \( f(t) \), is an example of a derivative.