Short Sales

When you sell a security short, you profit if the price goes down. But how do short sales actually work? There are four steps:

1. Borrow the security.
2. Sell it. Wait and hope that the price falls while your short position is open.
3. Pay any interest or dividends back to the security's original owner.
4. Close out the short by repurchasing the security and returning it.

Steps 3 and 4 are mandatory: "He who sells what isn't his'n, buys it back or goes to prison."

The business of securities lending is large and well-organized. For example, State Street BNY Mellon and many other banks act as intermediaries, lending out securities from portfolios of institutional investors such as pension funds. Individual investors who read the fine print from their stockbroker may find that they have agreed to make their portfolios available for lending out to short-sellers. Of course the broker guarantees that any security lent out will be returned.

Say you want to sell Chevron stock short. You call your broker, who borrows the stock on your behalf and sells it. The broker will demand collateral and will charge a fee for the service. Providing collateral is not an economic cost as long as a fair interest rate is paid. There is a cost if you have to put up collateral at less than the market interest rate.

In June 2012 Chevron sold for about $104 per share. Suppose you sell 1,000 shares short on June 15 and close out the short position 90 days later on September 15. Your profit depends on the price on September 15. Also Chevron paid a quarterly dividend of $.90 per share in September, so you will have to pay out $.90×10,000 = $9,000. Your cash flows are:

	June 2012		September 2012
Borrow and sell	$104,000	interest rate = 0 in June 2012 →	$104,000
Pay dividend			– $9,000
Repurchase			1000 × Price

Profit = $104,000 – $9,000 – 1000 × Price

Profit = $104,000 – $9,000 – 1000 × 95 = 0 if Price = $95 per share

You break even if the September price is $95. You earn $1,000 for every dollar that the price falls below $95. If the price stays at $104, you lose $9,000. In addition, you receive interest on $104,000 – although short-term interest rates in 2012 were effectively zero – and you have to pay any fees charged by your broker.

Bonds are shorted in the same way. Suppose you sell U.S. Treasury bonds trading at 115% of par. The coupon is 6.125%, with 3.0625% paid in February and August. You sell short (ex coupon) in August and close out the short six months later. Assume a 5% interest rate, 2.5% for six months. Your cash flows are:

	August		February
Borrow and sell	115	2.5% interest →	117.875
Pay coupon			– 3.0625
Repurchase			Price

Profit = 117.875 – 3.0625 – Price

The possible profits from shorting $100 million par value, before fees or a possible below-market interest on collateral are:

February price	Profit
105	+9.8125
110	+4.8125
114.8125	0
115	− 0.1875
120	− 5.1875
125	− 10.1875