

Accelerated Share Repurchase Analytics

Stock repurchase agreement is a contract that has a long position corresponding to a borrowing and a short position corresponding to a lending. A commission is paid to the lender of the stock at the end date of the loan and a collateral guarantees the loan. Furthermore, the borrower receives the stock dividends and has to redistribute a given percentage of them.

Moreover, the loan can be callable. In that case, the first possible exercise date is computed and the loan is considered being called at that date for the computation of both the theoretical and the rediscount values.

An accelerated share repurchase (ASR) agreement is a contract or an investment strategy used by a publicly traded company to buy back shares of stocks expeditiously from the market. In these agreements, firms are able to repurchase a significant number of their shares upfront. The intermediary must then repurchase the shares over a given time window that is equivalent to enter into a forward contract.

If a publicly traded company believes its stock shares are undervalued, it typically engages in ASR agreement that will ultimately inflate the stock value. ASR contract also benefits investors by causing an increase in the earnings per share of the stock.

At any point up to the maturity, the end point for the averaging time window can be set by the intermediary at a specified series of dates. The firm will then pay the difference between the upfront price it paid for the shares and the average VWAP over the given time period minus a discount.

An accelerated share repurchase (ASR) allows a firm to reduce the number of outstanding shares at a fixed cost, that can reduce any potential threats from the large shareholders for increasing their control of the company at significant levels.

Shareholders usually prefer ASR programs as the company generates higher returns due to less dilute and spreading the same market cap. As a share repurchase program boost the earnings per share of the company, the stock prices are boosted as well.

When the loan expiry is past, the theoretical value of the loan (TVloan) is set to 0. Elsewhere, the theoretical value (for one share borrowed) is given by:

$$TV_{loan} = B(\max(0, T_0), T)(V_{coll} - V_{com}) + B(0, T_{div})D_k$$

The commission amount is computed with the following formula

$$V_{com} = \max\left(P_{com}S_0(T_{final} - T_{start}), \frac{M_{com}}{N}\right)$$

If the collateral is defined in “Stocks” or in “T. Bills”, the collateral securities are deposited at the clearing house, but they are still the property of the stock borrower, hence $V_{coll} = 0$.

The haircut measures the discount to apply to the mark-to-market value of the collateral securities. For instance if the haircut is 20%, only 80% of their value is taken into account.

Reference:

<https://finpricing.com/lib/EqCppi.html>