

## Accelerated Share Repurchase Valuation

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.

In a share buyback program, a firm normally sets out the amount of shares it wishes to buy back, and over a specified time window the shares are bought back and the firm agrees to pay the average volume weighted average price (VWAP) over this fixed time period.

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.

In an ASR, the shares are bought up-front for a specified price by the firm. The intermediary then proceeds to repurchase the shares over a variable time window that never goes past the agreed upon maturity date.

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.

The ASR approach 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.

Unlike a normal buyback based on VWAP over a pre-set time window, there is optionality in the length of the time window used to determine the average price used for the share buyback. This is an embedded American option on the average price held by the intermediary. The firm, in exchange, will receive the shares at a discount for selling this option.

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.

Other features can be added that make the option more/less valuable including a collar where instead of explicitly specifying the number of shares to buy, the notional is fixed and the number of shares bought is based on this notional divided by the average share price over the variable time window with the constraint that a minimum /maximum number of shares will be bought. Also, if the closing daily VWAP goes outside a specified range, it may be excluded in the calculation of the average. There can also be a cap or floor on the overall average.

ASRs embed Bermudan style optionality. They can be priced via either PDE or Monte Carlo.

Reference:

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