# Preventing a stock market crash - circuit breakers

Following the 1987 stock market crash the President's Task Force on Market Mechanisms was established to identify the reasons behind the crash and to make recommendations as to how a future crash might be prevented.

The Task Force's main findings were:

1. An analysis of the events of the market crash should focus on market mechanisms rather than fundamental imbalances in the economy as a whole. Therefore the crash could not be explained in terms of the efficient markets hypothesis, where a sharp fall in market prices could be justified by the arrival of bad news.

2. Instability was not the inexorable limit of a steadily increasing level of day-to-day stock price volatility. This means that the crash was not the result of a build up in volatility in the days preceding October 19th 1987. As figure 1 shows, the crash was representative of a large amount of trading over a short period of time.

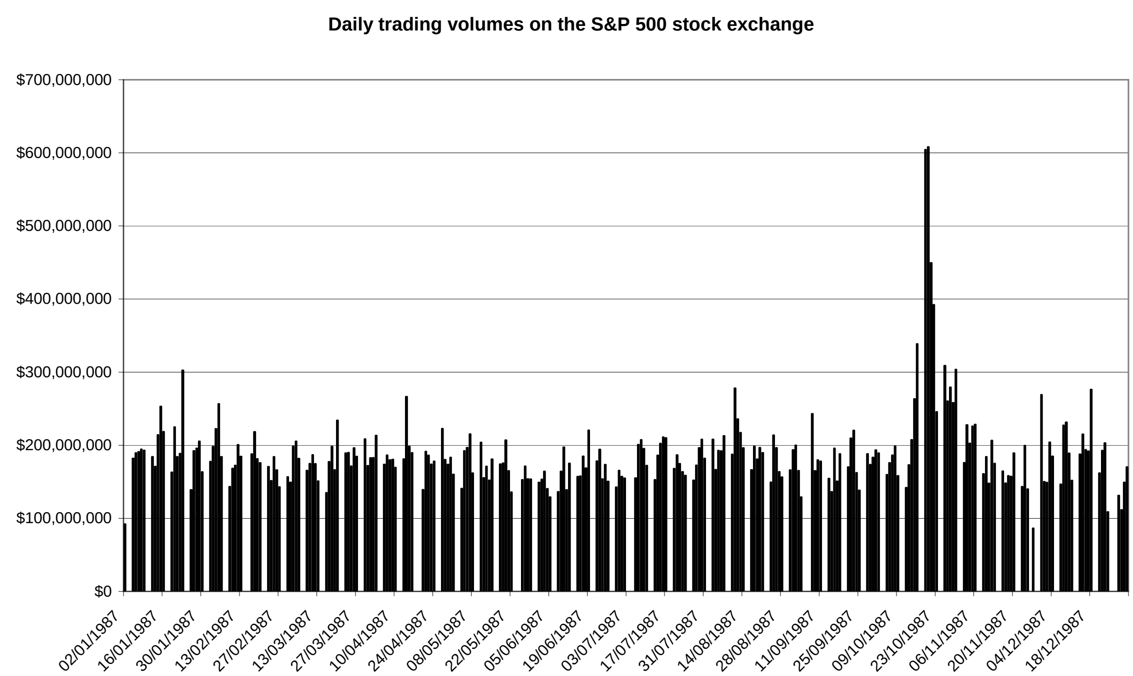


Figure 1: Source Yahoo finance

The new trading mechanisms (computerised strategies, derivatives) caused the crash by hithero increasing the potential for such a convulsive episode, but did not generate significant disorder prior to the crash. Therefore, the Taskforce report recommended crisis management rather than structural changes to the trading mechanisms. The key is to implement corrective interventions without causing large effects on the day-to-day trading operations.

3. This is the intended goal of circuit breakers. An orderly halt to trading (and subsequent orderly reopening) would have been preferable to what actually took place. Market efficiency arises when asset prices correctly reflect fundamental information on asset returns. In a crash, prices may divert from these fundamental or intrinsic values, and therefore send incorrect signals to investors. Inefficiency may then be perpetuated by the trading mechanism where computerised hedge strategies such as limit orders means that falling prices generates further automatic sell orders.

Circuit breakers are trading restrictions that come into practise when the stock market falls by a given amount during a given time period. The circuit breaker mechanism implemented in the US has three stages.

1. If the Dow Jones has moved by more than 50 points from the previous day close arbitrageurs are prevented from sending orders to the market unless their trades reverse the move. When established in 1988 a 50 point move was about 2% of the market in relative terms, but today it is a much smaller proportion and consequently there are numerous trading halts.

2. If the futures contract on the S&P 500 falls by more than 12 points (about a 96 point fall on the Dow) from the previous days close then program trading is suspended for five minutes. It also restricts new orders for the rest of the day except from smaller traders. This rule was aimed to limit the impact of computer trading- which was identified as one of the main culprits behind the 1987 crash.

3. The third circuit breaker suspends all trading on all stock exchanges for an hour if the Dow falls by more than 250 points during a day. If having re-opened the Dow fell by a further 150 basis points markets would then be suspended for a further two hours. These rules have recently been revised so that a 350 point fall now triggers a 30 minute halt, and a following 200 point fall a one hour suspension in trading.

The rationale for a circuit breaker arises from the perspective that markets are prone to severe losses of liquidity- and panics can onset larger than efficient falls in prices. Trading halts provide time for the market to settle and for traders to become re-informed. As specialists can re-assess both limit and market orders, trading halts improve market information when prices are otherwise inefficient transmitters of information. However, if large changes in share prices are justified by a shift in economic fundamentals then circuit breakers act to impede market efficiency, by preventing arbitrageurs from driving prices towards efficient valuations. The debate over the usefulness of circuit breakers comes down to what are the main perceived causes of large changes in share prices.