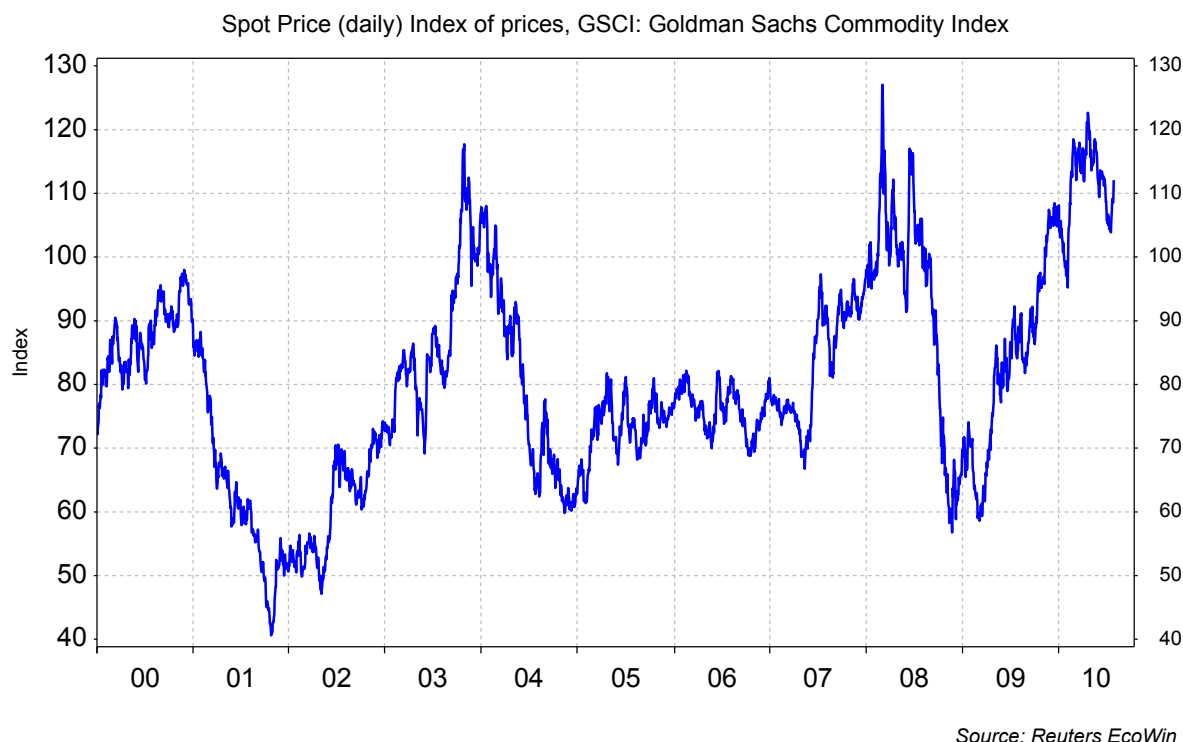


Buffer Stock Schemes

World Cotton Prices



The prices of agricultural products such as wheat, cotton, cocoa, tea and coffee tend to fluctuate more than prices of manufactured products and services. This is largely due to the **volatility in the market supply** of agricultural products coupled with the fact that demand and supply are price inelastic. One way to smooth out the fluctuations in prices is to operate price support schemes through the use of **buffer stocks**. But many of them have had a chequered history.

Buffer stock schemes seek to **stabilize the market price** of agricultural products by buying up supplies of the product when harvests are plentiful and selling stocks of the product onto the market when supplies are low.

The diagram below illustrates the operation of a buffer stock scheme. The government offers a guaranteed minimum price (P_{\min}) to farmers of wheat. The price floor is set above the normal free market equilibrium price. Notice that the price elasticity of supply for wheat in the short term is very low because of the length of time it takes for producers to supply new quantities of wheat to the market. (Indeed in the momentary period, we would draw the supply curve as vertical indicating a fixed supply).

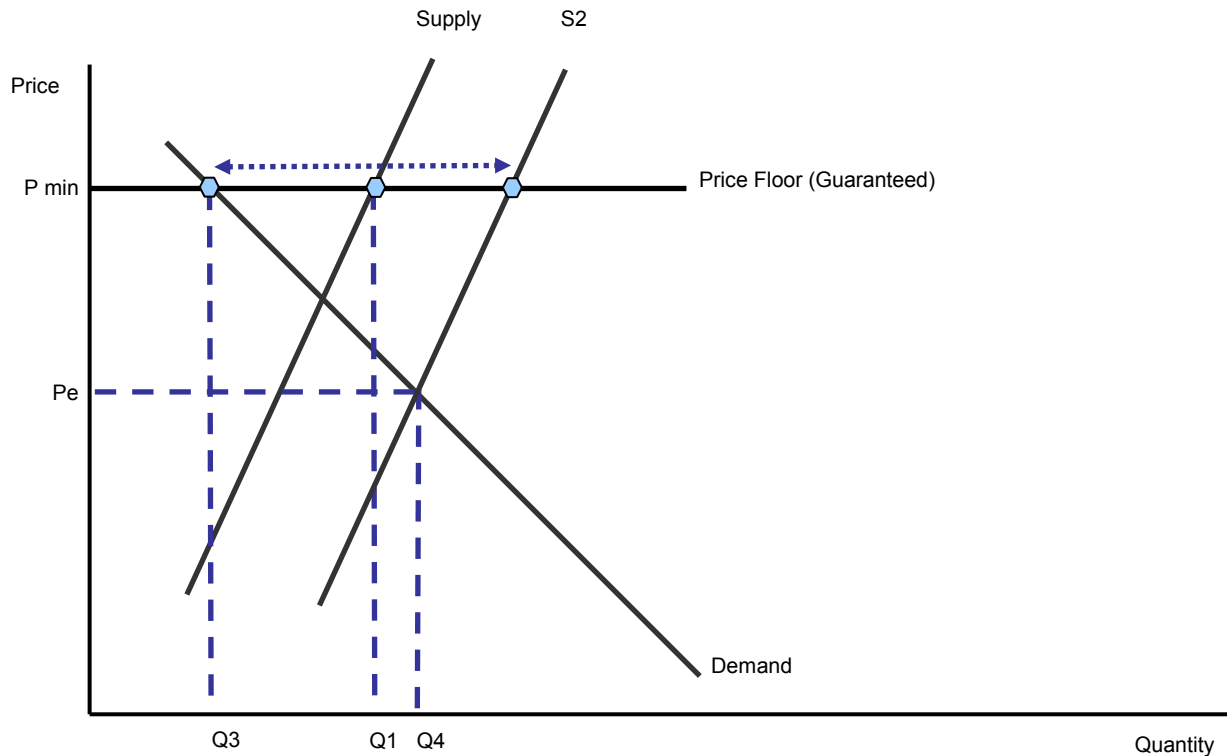
If the government is to maintain the guaranteed price at P_{\min} , then it must buy up the excess supply ($Q_3 - Q_1$) and put these purchases into intervention storage. Should there be a large rise in supply due to better than expected yields at harvest time, the market supply will shift out – putting downward pressure on the free market equilibrium price. In this situation, the intervention agency will have to intervene in the market and buy up the surplus stock to prevent the price from falling. It is easy to see how if the market supply rises faster than demand then the amount of wheat bought into storage will grow.

Advantages of a successful buffer-stock scheme:

- (1) Stable prices help maintain farmers' incomes and improve the incentive to grow legal crops
- (2) Stability enables capital investment in agriculture needed to lift agricultural productivity



- (3) Farming has positive externalities it helps to sustain rural communities
- (4) Stable prices prevent excess prices for consumers – helping consumer welfare



The problems with buffer stock schemes

In theory buffer stock schemes should be profit making, since they buy up stocks of the product when the price is low and sell them onto the market when the price is high. However, they do not often work well in practice. Clearly, perishable items cannot be stored for long periods of time and can therefore be immediately ruled out of buffer stock schemes. Other problems are:

- (1) Cost of buying excess supply can cause a buffer stock scheme to run out of cash
 - (2) A guaranteed minimum price might cause over-production and rising surpluses which has economic and environmental costs
 - (3) Setting up a buffer stock scheme also requires a significant amount of start up capital, since money is needed to buy up the product when prices are low. There are also high administrative and storage costs to be considered.
- The success of a buffer stock scheme however ultimately depends on the ability of those managing a scheme to correctly estimate the average price of the product over a period of time. This estimate is the scheme's target price and obviously determines the maximum and minimum price boundaries.
 - But if the target price is significantly above the correct average price then the organization will find itself buying more produce than it is selling and it will eventually run out of money. The price of the product will then crash as the excess stocks built up by the organization are dumped onto the market.
 - Conversely if the target price is too low then the organization will often find the price rising above the boundary, it will end up selling more than it is buying and will eventually run out of stocks

