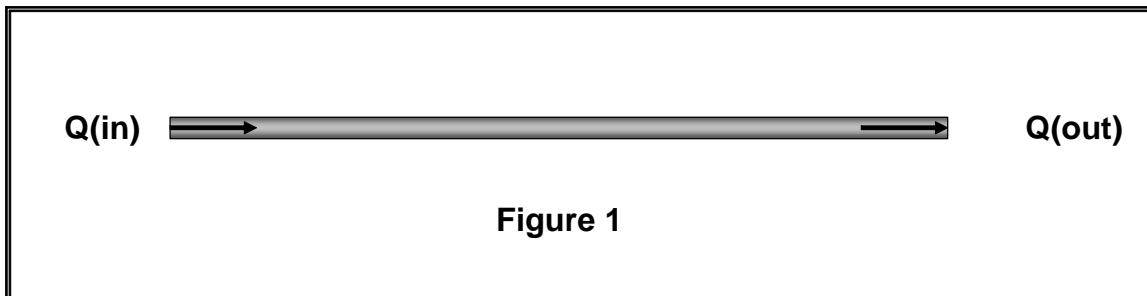


# Silver Shortage and Inventory

By Adrian Douglas

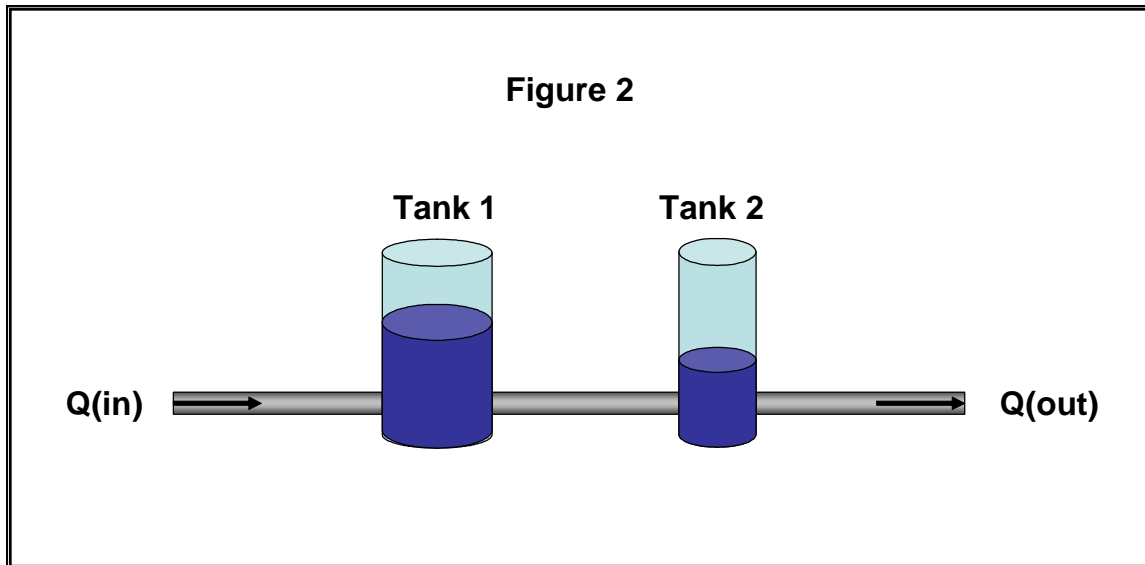
A café member sent me an e-mail today and questioned if a looming shortage of silver was not just hype. He reasoned that if there truly was a severe shortage of silver coming then the silver users would be stockpiling it and that should have blown the price much higher than its current levels. I decided to answer this question by way of this essay because I think it is a discussion worthy of a wider audience.

The key to this is the role of inventory in a supply chain. Imagine a water company is supplying water to your house by means of a pipe as shown in figure 1.



The flow-rate out of the pipe at your house,  $Q(\text{out})$  must be the same as the flow-rate into the pipe  $Q(\text{in})$  at the water-works by conservation of mass.

Now let's say that the water company can only provide 5 gallon per minute (5 GPM) down the pipe. Let's say that in the morning for your whole family to take their showers at the same time before everyone leaves to go to work you need 20 gallons per minute. How can this be provided? The answer is to have some storage tanks.



You actually only need one storage tank but you will see why I have added two later on. If our tanks have been filled during the night then with only 5 GPM of water being supplied by the water company we can have  $Q(\text{out})$  of 20 GPM of water by supplying 15 GPM of water from the storage tanks. When we no longer need the high flow-rate the water company supply will replenish the water in the tanks.

We can now equate this to the supply of silver. The  $Q(\text{in})$  is the rate at which silver is produced by the mines.  $Q(\text{out})$  is the rate at which silver is consumed by the silver users. Tank 1 now becomes the inventory of the refiners and the exchanges. Tank 2 is the inventory of the silver users. If silver is not used as fast as it is mined either inventory 1, inventory 2 or both will fill up. If silver is used faster than it is mined then the inventories will fall. So the purpose of inventory is to buffer the supply so that a fluctuating demand can be met with a constant supply. This is what is done with natural gas. The constant production from gas wells is put into storage in spring and autumn when the demand for electricity is low so that it can be supplied at a high rate to meet higher demand for electricity in summer and winter.

The situation in silver is that for the last ten years the demand for silver has been consistently higher than mine production. In addition the demand for silver has been growing while production itself has been declining.

In such circumstances demand can only be met by drawing down inventories on a continuous basis. In this way there is no real shortage that is observed, but clearly the situation is unsustainable.

The question I was asked is why it that silver users are not rushing to stock pile silver having seen that a shortage will soon be upon us?

In terms of my analogy the answer is clear. Users can not stock pile from mine supply  $[Q(in)]$  because it is already less than demand. The only way they can stock pile is to move inventory from inventory 1 (the refiners and the exchanges) to inventory 2 (their own inventories). This does not make sense if mines can not provide enough silver in the long term. All it will do is buy them a few weeks of extra time. If they knew, for example, that the refiners were going on strike for one week it would make sense to move the refiners inventory to their own inventory; but if the demand for silver is greater than mine supply on a long term basis inventory building is not only pointless but has to be done from other inventory! Having worked for a big company I know that inventory building is very difficult to get authorized. It means getting a large amount of capital expenditure approved which will then be tied up in inventory. Many companies avoid tying up capital. For example, they rent office buildings when it would be beneficial in the long term to buy their own buildings, but this ties up working capital.

If I told you that tomorrow at 5 PM the world will run out of oil, would it be worth stock piling 10 gallons of gasoline tonight?

So what would we expect silver users to do? I would expect them to go upstream and make deals with the producers to have long term supply contracts. This will mean that when the inventories run dry the users who will have silver are those that had the fore sight to make such arrangements. The acute shortage will be felt by those who will be looking for silver on the cash market, because there will not be any available. It will be felt by those who did not plan, who did not make any long term supply arrangements.

The Chinese have been making deals with Saudi Arabia, with countries in Africa and South America for long term supplies of

commodities. So much so that I suspect that their Trillion dollar surplus in reserves is already committed over the next 20 years.

Anyone who is looking for a large stock build of silver bullion by the major users as a sign there is a growing shortage might as well look for the Chinese to show up with 100,000 suitcases at the ECB and ask to buy 1 trillion dollars worth of Euros! It is not a logical scenario.

When raw commodity production is less than demand there will never be a shortage while there are inventories. However, the rise in price of many commodities has been accompanied by a rapid drawdown in inventories. The shortage will only manifest itself when the inventories are gone. At that point the price will move exponentially higher. It will be impossible for the average investor to climb aboard the precious metals bull market because physical bullion will be impossible to find for the small investor.

When viewed in this light one can clearly see why the Central banks have been drawing down their inventories of gold through loans and swaps but still reporting it as being in their vaults. This has served as a smoke screen to the fact that the day of reckoning is nigh, when there will be insufficient bullion to meet demand at any price.

The demand for real things, such as commodities, and particularly the precious metals, is being driven by the requirement to diversify out of the deluge of paper currencies which have almost limitless supply to the very finite supply of real things.

The shortage of real things will seem to come almost without warning as inventories run dry. Look at what is happening with Nickel for a preview.

There is no historical precedent for what is about to happen.

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