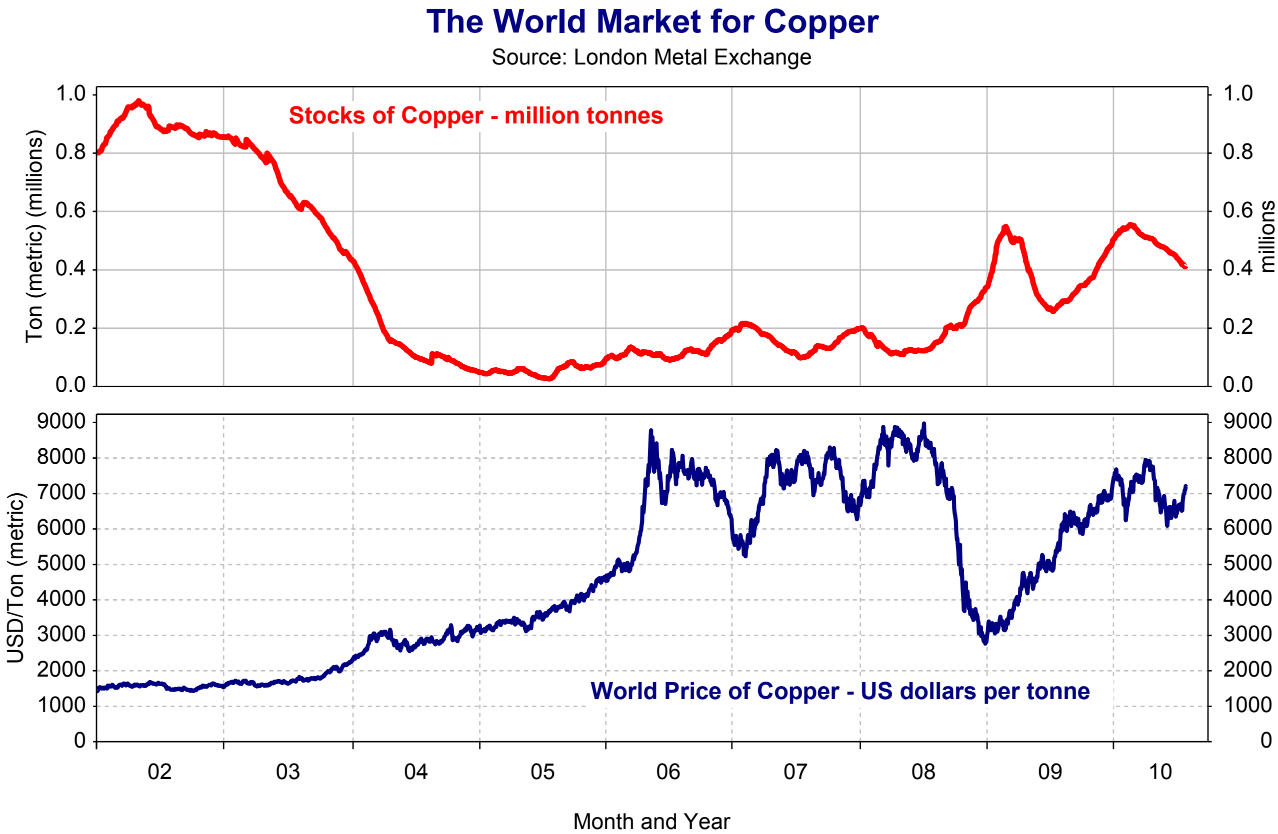
Markets in Action: The Market for Copper

Copper is a commodity that measures the pulse of the global economy. The world price nearly trebled between the start of 2005 and the summer of 2008 before the price collapsed to $3000 in the autumn of 2008. There has been a clear recovery in prices and copper prices are not too far below their 2007-08 levels. At their peak copper was so expensive on world markets that some copper coins were now worth more than their face value.



Source: London Metal Exchange

Over recent years the demand for copper has been rising more quickly than market supply – putting upward pressure on international prices. New discoveries of copper have raised global reserves by less than 1 per cent a year since 1925 but usage has risen at 3 per cent per annum. And demand is growing on the back of sustained growth in China, India and other emerging market economies. When stocks are low prices rise and when stocks recover (for example in 2008-09) there is pressure on prices to fall.

World supply of and demand for copper

Most copper ore is mined or extracted as copper sulfides from open pit mines. Over 40 per cent of world supply comes from North and South America; 31 per cent from Asia and 21 per cent from Europe. Chile is far and away the world's largest supplier of copper with around 35% of the total.

Copper – an example of derived demand

Because copper is malleable and ductile, there is a huge **industrial demand for copper**. Like most metals the demand for it is derived from the demand for products that use copper as a component or raw material – notably the **construction** and **electrical sectors**. From copper wire to copper plumbing, from the use of copper in integrated circuits to its value as a corrosive resistant material in shipbuilding and as a component of coins, cutlery and to colour glass, copper has a huge array of possible industrial uses. In the **automobile industry**, an average new car contains 27.6kg of copper. And **hybrid cars** which incorporate electric motors in conjunction with combustion engines could lead to further rises in copper demand. A typical electric hybrid car might use around 2 times the current usage of copper in extra cabling and windings for electric motors."

Low elasticity of supply

The price **elasticity of supply of copper** is low. Supply is unresponsive to price movements in the short term because of the **high fixed costs** of developing new extraction plants which involve lengthy **lead-times**. If existing copper mining businesses are working close to their **current capacity** then a rise in world demand will simple lead to a reduction in available stocks.

The effects of rising copper prices

The demand for copper will continue to remain strong provided that the global industrial sectors continue to expand production. Little surprise that emerging market countries such as China and India are spending billions of dollars from their trade surpluses to secure supply contracts for copper ore from producers such as Peru and Chile.

But if prices remain high we may see more copper **recycling** although the costs of doing so are often high and there are fears concerning the negative externalities arising from the pollution created by trying to recycle used copper. These external costs include atmospheric emissions from recycling plants and waste products dumped into rivers.

Economic theory would predict an **increase in demand for scrapped copper** and a **substitution effect** away from copper towards aluminium. And **new technologies** may cause a shift in demand away from copper based products. Plastics provide lower material and installation costs for businesses. The take off in **wireless technology and fibre optics** will also have an impact.

And higher prices should stimulate an expansion of **copper ore** production. In recent years, copper mining production has fallen short of expectations. But as with any market, if the price is high enough suppliers will eventually respond!