

Change in underlying goods making up goods used for a similar purpose

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If we consider how televisions † have changed over the decades, we'll notice a complete variation in combinations of metals used. *'Televisions' are combinations of different metals in various demarcated proportions.* Steel, copper, aluminium, nickel, gold, silver, as well as other metals have been used in combinations that have changed wildly over decades. 'Television' isn't an isolated example; the same is true about any good in generality, even something as overtly simple as a 'spoon;' for we cannot exclude cases where it would be more efficient for us to use spoons made of one metal or another; as conditions might dictate.

How do we resolve this? Through unhindered exchange; considering recycling as an inseparable part of consumption and production. We all require 'new' goods for 'old' goods and being broadly aware of how to make goods, as anyone would in society based on public education, we hand over 'old' goods for their combined monetary/metal content to recyclers. Producers take metals on offer from recyclers, combining that with 'new' metals to make 'new' goods on offer to fill 'old' goods' place.



Consider some people who wish to make the newest of televisions, having been made aware of new technology from their teachers. They estimate that they can build X televisions within one year. They need metals; and wish to combine those metals. Those metals, in part, would be available from monetary futures exchanges, so that particular element can be passed through as part of offered sale price (or cost) of each television.

$$\text{components (external)} \rightarrow \omega_a \otimes \omega_f \otimes \omega_p \otimes \dots \rightarrow \text{television}^\dagger$$

Where we can think of $\omega_a \dots$ as representing individuals in a company making that television and \otimes representing that mystery of their interaction. Note that 'television' here means 'television in exchange for X gold coins in six months,' say.

† *television* is a 'good which produces an image of what's far-away.'



Exchange and settlement

During the Mughal period in India, ‘mohurs’ of 169 grains gold, ‘rupees’ of 178 grains silver and ‘dams’ of 323 grains copper circulated together without any form of ‘state’ imposition on their relative rates of exchange – completely unlike monetary affairs in contemporaneous Europe. If someone had marked goods for sale against a certain quantity of gold mohurs but was willing to accept silver rupees and/or copper paisa, how would that quantity of silver rupees and copper paisa have been determined? For collating their revenue and expenditure, the Mughal administration attempted to solve this problem by introducing a ‘money of account’ called *tanka-muradi* which was, in one aspect, merely two standard copper dams but in another aspect, somehow represented *all* other coins acceptable as payment. Records are not available as to *how* this tanka-i-muradi was constructed and functioned but, with Menger’s bid/offer spread observations in mind, it can be reconstructed.

Consider that ‘raw’ copper in its un-coined state was offered by-weight against silver rupees. Such a quotation from a coppersmith would involve quantities of copper *offered for* rupees as well as quantities of copper required *against an offer* of silver rupees. Rates of exchange for these two aspects would have been solely at each coppersmith’s discretion. Say a coppersmith is quoting for 10,000 grains of copper each way ‘10 rupees@11rupees’ – meaning that they’re willing to accept 10,000 grains of copper in exchange for 10 rupees (taking in copper for silver) and that they’re also willing to offer 10,000 grains of copper for 11 rupees (taking in silver for copper.) If someone has their goods, *whatever they might be*, on offer for 10 rupees, then they shouldn’t refuse 10,000 grains of copper – or 31 copper dams if coined – as 10 rupees could be directly obtained *for* that within market place. Someone with their goods on offer for silver rupees would have had some intention to exchange those rupees away in process of their general exchange, so this method reduces *roundabout* exchanges needed to complete exchange.

In this way, we can see how metal recyclers, amongst whom would be found metal market makers, would organically enhance any ‘supply’ of coins of one particular metal within any community and that their absence, or worse still being controlled through some ‘state authority,’ would be thoroughly detrimental to that community.



Further reading:

Money, Banking & Trade in Mughal India, *B.S. Mallick*, Rawat Publications, 1991.

Akbar and His India, collection of essays edited by Irfan Habib, Oxford University Press, 1997.