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Noteworthy Insights on Supply and Demand, Boom and Bust

Adam Smith's *Invisible Hand* is the basis of the free market and as such, warrants a look from a systems thinking perspective. Supply and demand are inherently systemic and breaking open the situation from a Systems Thinking perspective can offer leverage points to mitigate the sometimes negative consequences of this system.

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The Structure of the System

A basic premise of supply and demand is: as the price for a product goes up, without any other changes, it causes demand to go down, which in turn decreases the price to an acceptable level.

The price of substitutes, or replacements, can act as a secondary stabilizing force. This happens because as the price of substitutes goes down, the demand for the original product decreases.

Concurrently, separate forces are acting to connect the supply of the product to its price. With these elements and given a stable demand, as supply decreases, the price will increase. As price increases, eventually the supply will increase to meet the demand, as long as the cost of production is acceptably less than the price.

Supply and demand impact price through the structure of balancing feedback loops. These balancing feedback loops lend themselves to stability whenever the effects are relatively local, and supply adjustments can be relatively quick. With supply and demand, these balancing feedback loops are often represented as Adam Smith's Invisible Hands.

When demand for a product increases, there is an impact on the price of the product, which will then, in turn, have an impact on the demand for the product (B1). This loop is connected to a similar loop representing the supply, where a change in price because of demand, will also affect the supply (B2).

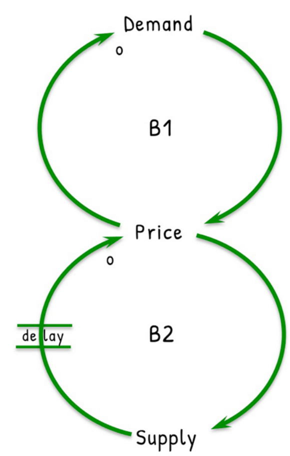

Figure 1. Balancing loops of supply and demand. Source: Leverage Networks

When a supply cannot be adjusted quickly (B2), it introduces a delay to the structure that has widespread consequences. A minor delay in delivery occurs first due to a misperception of the supply. Prices and demand are sustained through a lower supply, so it takes time for companies, and people looking at the market, to observe the gap between the perceived supply and the actual supply.

Once the gap is identified and a decision is made to increase the supply, it can take years to create additional production capacity. This increases the delay of the supply adjustment and can lead to an oscillating pattern in the available supply and price.

Walking Through an Example:

When an industry notices that demand for a product is strong, as evidenced by prices increasing over time, they will begin building a larger supply to fill that demand. During the delay between beginning to build their supply and having an increased supply, the demand will continue to be strong and the price will continue to rise. The clear strength of the product attracts new producers to the market who begin to build their own supply. This increase in the market continues until these increases in capacity are brought online.

As a result of the increased supply, demand is fulfilled, and prices drop. The newly developed supply continues to increase and flood the market, lowering prices to below the cost of production. This results in bankrupted projects and an overabundance of supply that continues to keep price low.

This can continue until the products in use become obsolete and begin to degrade. Eventually, the original products wear out and there is again an increase in demand. In industries where the supply is dedicated to a certain product line, and not growing substantially, this can result in a lower, but steady demand level. However, for some growth markets, such as housing or industrial real estate, when overall demand continues to grow in the longer run, eventually the stock of excess supply is sold, which leads to an increase in prices. At this point, the cycle often starts by over rebuilding the supply. This oscillating dynamic is especially pronounced in industries with large delays in capital expansion, such as real estate or infrastructure.[1]

Systemic Insights

1. Observe long trends in markets.

A historical behavior over time chart can be pivotal in identifying cycles of boom and bust in existing markets. Understanding location within the cycle is instrumental for informing strategic choices.

2. During a market expansion, know whether you are on the early or late side of the movement.

If the price has been increasing, scan the market environment for other players increasing their supply. Anticipate reduction in prices if many new installations will already be on the market and run business planning scenarios with a range of prices to ensure adequate profitability at lower prices. If an investment does not look attractive at the lower price levels, consider investing in a different market or at a later point in time.

3. Consider counter-cyclical addition of supply.

Though not always easy or even possible to acquire the necessary funding given the number of lenders having been burned after a bust in a given market, many have been successful using this strategy. In markets where the price is likely to increase again due to rising demand, being a first mover allows a capture of sales at the highest levels, though timing this expansion investment can be risky.

Sources and Further Reading

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