On1Page: Technology & Dematerialization 9/6/17

Technology is increasingly replacing physical objects in our everyday lives. Your internet-enabled smart phone directly replaces your home phone, alarm clock, TV, radio, tape/DVR recorder, still/moving camera, photo album, maps, flashlights, newspapers, books, music records, notepads, calendars, board/video games, envelopes/stationary, wallets, credit cards, cash, calculators and personal computers, as well as service providers such as travel agents, tour guides, personal trainers, bank tellers, translators, concierges, and soon many activities performed by nurses and doctors. Many devices that enhance your smart phone's capabilities are currently available, or will be available soon, that will replace large, expensive and/or bulky tools that monitor your health. In addition, ride and house-sharing service technologies are reducing the aggregate demand for physical objects such as cars and hotels by making available previously unused resources/capacity. Most people are keenly aware of many of these changes, and how they reduce/eliminate the demand for physical items, but does this phenomenon of "dematerialization" hold true on a global scale?

Developed World "De-materialization" vs. Emerging Economy "Mega-Materialization"

Within the developed world, many of the physical items that are being replaced with technology were pre-existing and widely available, but in the emerging economies, these items were largely unavailable and/or too costly so there was much less available to "de-materialize". On the other hand, the large populations living in the emerging market economies have increasing access to information about education, business resources, engineering/scientific knowledge, foreign language translation, energy generation, global trade/markets and health care resources. This access empowers the dormant and/or underutilized talents and ambitions of billions of individuals in underdeveloped countries, and as they rise out of poverty into a higher level of prosperity, "mega-materialization" will likely result as infrastructure is established and towns/cities modernized. An interesting "law of unintended consequences" scenario to consider is that the introduction of solar/wind energy technology into previously energy-deprived areas can provide the needed "energy bridge" to enable access to telecommunications/internet access, which in turn can provide the potential for improved economic productivity and consumption. This increased consumption will likely lead to an increase in demand for oil and natural gas, either directly or indirectly, even though the chain of events began with "clean energy". Economic modernization requires the manufacture of industrial materials (such as concrete and steel), and the operation of heavy equipment, that cannot yet be powered via current clean energy technologies.

While the advancement of technology in the developed world has certainly reduced the demand for physical goods via substitution (and in turn the related raw goods and production capacity), within the emerging economies, the opposite is likely to occur as newly created wealth is used to build and acquire physical resources that never existed. The increased demand for commodities and production capacity because of the disproportionate benefit of technology on the standard of living within emerging economies has been masked for over seven years as global supply chains adjusted to China's deceleration from mid-teens GDP growth rates down to mid-single digits, but that appears to have run its course. During the most recent phase of the current U.S. equity bull market, investors' focus and investment dollars have been directed towards the high-profile leaders of the technological revolution that we have been witnessing and experiencing. However, during the coming decade it will likely be the primary benefactors of these powerful technologies, the emerging markets, and the commodities and goods that they consume, that will take the spotlight back after a nearly decade-long hiatus.