The Misconception of Scarcity

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Are we confronted merely with a bear market in stocks - or is it the first phase of a global contraction of the magnitude of the Great Depression? The answer overwhelmingly depends on how we understand scarcity.

It will be only a mild overstatement to say that the science of economics, such as it is, revolves around the Malthusian concept of scarcity. Our infinite wants, the finiteness of our resources and the bad job we too often make of allocating them efficiently and optimally - lead to mismatches between supply and demand. We are forever forced to choose between opportunities, between alternative uses of resources, painfully mindful of their costs.

This is how the perennial textbook "Economics" (seventeenth edition), authored by Nobel prizewinner Paul Samuelson and William Nordhaus, defines the dismal science:

"Economics is the study of how societies use scarce resources to produce valuable commodities and distribute them among different people."

The classical concept of scarcity - unlimited wants vs. limited resources - is lacking. Anticipating much-feared scarcity encourages hoarding which engenders the very evil it was meant to fend off. Ideas and knowledge - inputs as important as land and water - are not subject to scarcity, as work done by Nobel laureate Robert Solow and, more importantly, by Paul Romer, an economist from the University of California at Berkeley, clearly demonstrates. Additionally, it is useful to distinguish natural from synthetic resources.

The scarcity of most natural resources (a type of "external scarcity") is only theoretical at present. Granted, many resources are unevenly distributed and badly managed. But this is man-made ("internal") scarcity and can be undone by Man. It is truer to assume, for practical purposes, that most natural resources - when not egregiously abused and when freely priced - are infinite rather than

scarce. The anthropologist Marshall Sahlins discovered that primitive peoples he has studied had no concept of "scarcity" - only of "satiety". He called them the first "affluent societies".

This is because, fortunately, the number of people on Earth is finite - and manageable - while most resources can either be replenished or substituted. Alarmist claims to the contrary by environmentalists have been convincingly debunked by the likes of Bjorn Lomborg, author of "The Skeptical Environmentalist".

Equally, it is true that manufactured goods, agricultural produce, money, and services are scarce. The number of industrialists, service providers, or farmers is limited - as is their life span. The quantities of raw materials, machinery and plant are constrained. Contrary to classic economic teaching, human wants are limited - only so many people exist at any given time and not all them desire everything all the time. But, even so, the demand for man-made goods and services far exceeds the supply.

Scarcity is the attribute of a "closed" economic universe. But it can be alleviated either by increasing the supply of goods and services (and human beings) - or by improving the efficiency of the allocation of economic resources. Technology and innovation are supposed to achieve the former - rational governance, free trade, and free markets the latter.

The telegraph, the telephone, electricity, the train, the car, the agricultural revolution, information technology and, now, biotechnology have all increased our resources, seemingly ex nihilo. This multiplication of wherewithal falsified all apocalyptic Malthusian scenarios hitherto. Operations research, mathematical modeling, transparent decision making, free trade, and professional management - help better allocate these increased resources to yield optimal results.

Markets are supposed to regulate scarcity by storing information about our wants and needs. Markets harmonize supply and demand. They do so through the price mechanism. Money is, thus, a unit of information and a conveyor or conduit of the price signal - as well as a store of value and a means of exchange.

Markets and scarcity are intimately related. The former would be rendered irrelevant and unnecessary in the absence of the latter. Assets increase in value in line with their scarcity - i.e., in line with either increasing demand or decreasing supply. When scarcity decreases - i.e., when demand drops or

supply surges - asset prices collapse. When a resource is thought to be infinitely abundant (e.g., air) - its price is zero.

Armed with these simple and intuitive observations, we can now survey the dismal economic landscape.

The abolition of scarcity was a pillar of the paradigm shift to the "new economy". The marginal costs of producing and distributing intangible goods, such as intellectual property, are negligible. Returns increase - rather than decrease - with each additional copy. An original software retains its quality even if copied numerous times. The very distinction between "original" and "copy" becomes obsolete and meaningless. Knowledge products are "non-rival goods" (i.e., can be used by everyone simultaneously).

Such ease of replication gives rise to network effects and awards first movers with a monopolistic or oligopolistic position. Oligopolies are better placed to invest excess profits in expensive research and development in order to achieve product differentiation. Indeed, such firms justify charging money for their "new economy" products with the huge sunken costs they incur - the initial expenditures and investments in research and development, machine tools, plant, and branding.

To sum, though financial and human resources as well as content may have remained scarce - the quantity of intellectual property goods is potentially infinite because they are essentially cost-free to reproduce. Plummeting production costs also translate to enhanced productivity and wealth formation. It looked like a virtuous cycle.

But the abolition of scarcity implied the abolition of value. Value and scarcity are two sides of the same coin. Prices reflect scarcity. Abundant products are cheap. Infinitely abundant products - however useful - are complimentary. Consider money. Abundant money - an intangible commodity - leads to depreciation against other currencies and inflation at home. This is why central banks intentionally foster money scarcity.

But if intellectual property goods are so abundant and cost-free - why were distributors of intellectual property so valued, not least by investors in the stock exchange? Was it gullibility or ignorance of basic economic rules?

Not so. Even "new economists" admitted to temporary shortages and "bottlenecks" on the way to their utopian paradise of cost-free abundance.

Demand always initially exceeds supply. Internet backbone capacity, software programmers, servers are all scarce to start with - in the old economy sense.

This scarcity accounts for the stratospheric erstwhile valuations of dotcoms and telecoms. Stock prices were driven by projected ever-growing demand and not by projected ever-growing supply of asymptotically-free goods and services. "The Economist" describes how WorldCom executives flaunted the cornucopian doubling of Internet traffic every 100 days. Telecoms predicted a tsunami of clients clamoring for G3 wireless Internet services. Electronic publishers gleefully foresaw the replacement of the print book with the much heralded e-book.

The irony is that the new economy self-destructed because most of its assumptions were spot on. The bottlenecks were, indeed, temporary. Technology, indeed, delivered near-cost-free products in endless quantities. Scarcity was, indeed, vanquished.

Per the same cost, the amount of information one can transfer through a single fiber optic swelled 100 times. Computer storage catapulted 80,000 times. Broadband and cable modems let computers communicate at 300 times their speed only 5 years ago. Scarcity turned to glut. Demand failed to catch up with supply. In the absence of clear price signals - the outcomes of scarcity - the match between the two went awry.

One innovation the "new economy" has wrought is "inverse scarcity" - unlimited resources (or products) vs. limited wants. Asset exchanges the world over are now adjusting to this harrowing realization - that cost free goods are worth little in terms of revenues and that people are badly disposed to react to zero marginal costs.

The new economy caused a massive disorientation and dislocation of the market and the price mechanism. Hence the asset bubble. Reverting to an economy of scarcity is our only hope. If we don't do so deliberately - the markets will do it for us, mercilessly.

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