

Why Most Experts Fear for the Future of Technology

Technology moves so fast today that many of us, upon buying a brand new electronic device, may wonder how long it'll take before the product is old news.

Is it less than a year, a few months, as soon as you pull it out of its packaging?

Throughout most of human history, the same methods and tools of trades were handed down generation after generation. How is it that, these days, cutting-edge technology earns antique status in less than a decade? The shortest answer is found in Moore's Law, says tech expert and macroeconomist Apek Mulay.

"Moore's Law, named after Intel co-founder Gordon Moore in 1965, is the observation that, in computing hardware, the size of transistors on a chip shrinks, enabling the number of transistors on a chip to roughly double every two years, thereby increasing their capacity for computation and energy," says Mulay, author of "Mass Capitalism: A Blueprint for Economic Revival," (www.ApekMulay.com), which presents solutions to the economic problems threatening the United States and global semiconductor industry.

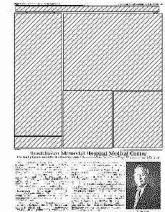
"Moore's Law has profound implications both for technology and the national and global economy. As long as it can be sustained, we can continue benefiting from the technological innovations and new consumer electronic goods."

While Moore's Law is, on the one hand, a law of physics, many semiconductor industry professionals believe that the economics of manufacturing – specifically, the high costs of investments in shrinking transistor dimensions – will force its premature end. That would be disastrous for the economy – the end of growth for a huge sector, and associated sectors which depend upon it.

Moore's Law can easily continue for the foreseeable future if the chip manufacturing industry becomes sustainable by having a balanced economy, he says. That will require some major macro-economic reforms.

Mulay Offers Three Remedies:

- Refuse to accept monopoly capitalism in the global semiconductor industry. In 1968, 256KB worth of memory for a mainframe computer would have cost you \$100,000. Today, eight gigabytes of memory costs just \$6. However, while the price of the basic technology has plunged steeper and faster than Moore predicted, the cost to consumers of products utilizing that technology is still high. The plunging prices from the progress of Moore's Law



have mainly benefitted the highest income earners, including investors, due to monopoly capitalism. Government sanctioned monopolies have succeeded in maintaining artificially high prices at the retail level in order to protect their profits and share value.

- **Implement a system of neo-cooperative ownership of companies by their employees.** Company decisions should not be controlled by outside investors due to their ownership. Instead, mass ownership and neo-cooperative management by a company's employees not only benefits them but America's overall national interests while helping to sustain Moore's Law. Employee owned/operated companies are examples of mass capitalism as opposed to monopoly capitalism, which is driven almost entirely by profit seeking non-employee investors. The manipulation of pricing endemic to monopoly capitalism is contributing to the early demise of Moore's Law. Another benefit: Firms that are owned and guided by employees would provide better benefits to their workers, freeing the government of this task and reducing its deficits.

- **Reform our political system in order to mitigate the power of special interests.** In order to make the necessary economic changes, we'll have to reform our political democracy. Rather than having special interests and deep pockets dictate federal policy, power must be restored to the electorate. Representatives and senators should poll their constituents on a wide range of issues, from maintaining the military industrial complex to how best to deliver equitable health care. We should also consider decentralizing the Federal Election Commission in favor of putting such power and influence on the local level, thereby focusing democracy on localized issues. A civilian democracy can work successfully on a national level only when it can work at the grassroots level.

About Apek Mulay

Apek Mulay is CEO of Mulay's Consultancy Services, a senior analyst and macroeconomist in the United States semiconductor industry and author of the new book, "Mass Capitalism: A Blueprint for Economic Revival," (www.ApekMulay.com). He attended the University of Mumbai in India and later completed his master's in Electrical engineering at Texas Tech University. Mulay authored the patent "Surface Imaging with Materials Identified by Colors" during his employment at Texas Instruments Inc., and has chaired technical sessions at International Symposium for Testing and Failure Analysis (ISTFA). The U.S. government approved his permanent residency under the category of foreign nationals with extraordinary abilities in science and technologies.

