

Through the Crisis of Maturity: Forecasts of an Economic Boom in 2015

by *William E. Halal*

EXECUTIVE SUMMARY

Drawing on forecasts from the TechCast Project, this article sketches out how the green revolution, global e-commerce, and other emerging business sectors are likely to pull the world out of recession about 2012. Charting the 35-year Kuznets business cycles also suggests that the next economic boom based on this sustainable growth will start about 2015. These innovations should begin to resolve the global “crisis of maturity”—energy shortages, climate change, environmental decline, weapons of mass destruction, etc.—that must be overcome to move civilization to an advanced stage of development.

ABOUT THE AUTHOR

William E. Halal is professor emeritus of science, technology, and innovation; co-founder and trustee, Institute for Knowledge and Innovation at George Washington University; and president of TechCast LLC (www.TechCast.org). His latest book is *Technology's Promise: Expert Knowledge on the Transformation of Business and Society* (London: Palgrave Macmillan, 2008).

Through the Crisis of Maturity

Forecasts of an Economic Boom in 2015

William E. Halal

The constant drumbeat of cascading business failures is certainly daunting, but technology forecasts suggest that a green revolution, advanced auto designs, surging e-commerce, and other new business sectors are poised to lead the global economy out of today's recession, producing a new economic boom at about 2015.

We have poured trillions of dollars into reviving economic life, and President Obama shows the temperament to lead. But in the rush to be practical, we have slighted the need for a guiding vision of a viable economic system beyond the one that is failing. We lack a clear understanding of what is taking place and what it means.

The financial meltdown is part of a larger "global crisis of maturity," whose symptoms include energy shortages, climate change, weapons of mass destruction, terrorism, and other yet unforeseen threats that are straining old systems to the breaking point. These are interrelated elements of a failing global order that increasingly looks like a train wreck in slow motion. If not subprime mortgages, then some other flaw in today's economic system would likely have caused roughly the same failures. Just as the collapse of communism resulted

from an over-controlled planned economy, today's "collapse of capitalism" is the result of an under-controlled market economy.

I lead a research team that forecasts the evolution of technology and its massive impacts that are changing the world. We've developed an intelligent Web site (www.TechCast.org) that pools the knowledge of 100 experts worldwide to forecast breakthroughs in all fields. Technology forecasts are especially useful because our collective "tools" form the economic foundations of the social order. Technological progress is insulated from economic cycles because R&D projects often have long-term support from governments, foundations, and universities. Entrepreneurs may delay product launches during recessions, but they also discount temporary downturns in favor of long-term prospects.

The relentless power of technology can be seen in the fact that the dot-com bust of 2000 didn't faze the Internet, which has now entered a more sophisticated "participative" stage of Web 2.0 sites, like Facebook and YouTube, influencing even the election of Barack Obama. Today's recession is but a two- to three-year year dip as globalization continues to be driven on by the exploding forces of information technology. As Andy Grove, chairman of Intel, put it so well: "Technology always wins in the end."

Our forecasts show that today's surging interest in green business should take off in four to five years, and governments are likely to take serious steps to curb global warming about the same time. Entrepreneurs are working on alternative energy sources—wind turbines, biofuels, nuclear plants, and solar cells. This entire "green revolution" is growing by 30%–50% per year, roughly the same rate of the famous Moore's law that predicts information technology to double every two years. Al Gore was right that the transition to sustainability could be made substantially in 10 years or so.

Because these complex issues are so intertwined, Obama should use his political capital to invite major corporations and other governments to work together on innovative solutions. Green technol-

ogy is roughly a \$500 billion market and expected to reach \$10 trillion in 2020—larger than autos, health care, and defense. In short, the present energy and environment mess actually offers a great opportunity in disguise. It may be that the resulting economic growth in a noble cause to protect the earth could even defuse the race toward weapons of mass destruction and conflict, as diverse cultures are more closely integrated into the global community.

Almost all sectors of the economy are likely to be rejuvenated with high-tech advances in roughly the same time frame. A new wave of green autos powered by hybrid, electric, and fuel-cell engines should enter the mainstream about 2013–2018, and we are likely to see “intelligent cars” that may even drive themselves. So there are growth opportunities for automakers if Detroit can get its act together and make needed changes in corporate governance—just as financial institutions must do.

The information technologies driving globalization are gaining momentum as publishing, entertainment, virtual education, and other forms of e-commerce reach the critical 30% adoption level where new businesses usually take off. The huge populations of China, India, Brazil, and other developing countries are moving in droves to PCs, the Internet, smart phones, and global media, for better or for worse. Our forecasts show that 3 to 4 billion people will soon inhabit a digital world that is smarter, faster, and interactive, creating online markets of several trillion dollars and forming a fine web of global consciousness.

The year 2015 seems to mark the serious beginning of all this innovation because it is the next inflection point in the 35-year cycles that roughly govern U.S. markets. The Roaring Twenties were the peak of a 35-year cycle that ended with the stock market crash and Great Depression. The boom that started about 1945 and lasted through the Sixties was followed by the Reagan boom that began with his election in 1980. Today’s collapse marks the end of the Reagan 35-year cycle, and it is likely to be followed by the “global boom” outlined above start-

ing about 2015. The economy may recover its recent losses, but five or six years may be needed to begin a major new growth cycle.

These are enormous challenges, of course, so it's hard to imagine how they can be achieved in a world that celebrates power politics, money, consumerism, and self-interest. The 2008 financial crisis, however, is widely understood to mark an end to that era, and the outpouring of goodwill around the world for the Obama presidency signals the possibility of global support. Polls show that 70%–80% of Americans are also united behind him.

Beneath the surface, deep rivers of fresh thought are bubbling up. Pollster John Zogby analyzed his data over the past 20 years to conclude: "We are in the midst of a fundamental reorientation of the American character ... away from wanton consumption and toward a new global citizenry in an age of limited resources." Zogby finds that the 18- to 29-year-old cohort, "millennials," constitute the "First Globals." This "digital generation" accepts all races, genders, and cultures equally, and they are intent on living sustainably in a unified world.

This global megacrisis may not be catastrophic if acted on in time, but a major turning point seems inevitable as these multiple threats reach critical levels over the next decade. Global GDP is expected to double by 2020, increasing all these threats to the breaking point. We can no longer muddle through, because the world is poised at the cusp of a great discontinuity—much like a teenager when thrust into the passage to adulthood. Whether a teenager shedding the baggage of youth to become a responsible adult or a civilization facing the imperative to form a mature, functioning society, the imperative is much the same—grow up or perish.

Things look bleak because that's the normal situation facing any system struggling through maturity, whether a youth or an entire civilization. The transition seems to possess a life all its own that is unfolding rapidly, and it is precisely because so many people are so deeply concerned that serious change is under way. The world has accepted

women in power, transformed planned economies into free markets, begun to protect the environment—and Americans have elected a black president. Now the tough challenge of forming a sustainable, collaborative, and intelligent global order lies ahead. Hardly a perfect world, of course, but a mature world that works.