

# TRUE WEALTH

*How and Why Millions of Americans Are Creating  
a Time-Rich, Ecologically Light, Small-Scale,  
High-Satisfaction Economy*

JULIET B. SCHOR



PENGUIN BOOKS

Previously published as *Plenitude*

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Juliet B. Schor's research has focused on the economics of work, spending, environment, and the consumer culture. She is the author of *Born to Buy*, *The Overworked American*, and *The Overspent American*. Schor is a professor of sociology at Boston College, a former member of the Harvard economics department, and a Guggenheim Fellowship recipient. She is also a cofounder of the Center for a New American Dream, an organization devoted to ecologically and socially sustainable lifestyles.

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Published by the Penguin Group

Penguin Group (USA) Inc., 375 Hudson Street, New York, New York 10014, U.S.A. • Penguin Group (Canada), 90 Eglinton Avenue East, Suite 700, Toronto, Ontario, Canada M4P 2Y3 (a division of Pearson Penguin Canada Inc.) • Penguin Books Ltd, 80 Strand, London WC2R 0RL, England • Penguin Ireland, 25 St. Stephen's Green, Dublin 2, Ireland (a division of Penguin Books Ltd) • Penguin Books Australia Ltd, 250 Camberwell Road, Camberwell, Victoria 3124, Australia (a division of Pearson Australia Group Pty Ltd) • Penguin Books India Pvt Ltd, 11 Community Centre, Panchsheel Park, New Delhi - 110 017, India • Penguin Group (NZ), 67 Apollo Drive, Rosedale, Auckland 0632, New Zealand (a division of Pearson New Zealand Ltd) • Penguin Books (South Africa) (Pty) Ltd, 24 Sturdee Avenue, Rosebank, Johannesburg 2196, South Africa

Penguin Books Ltd, Registered Offices: 80 Strand, London WC2R 0RL, England

First published in the United States of America as *Plenitude* by The Penguin Press, a member of Penguin Group (USA) Inc. 2010 Published with a new preface in Penguin Books 2011

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Charts and graphs by the author

THE LIBRARY OF CONGRESS HAS CATALOGED THE HARDCOVER EDITION AS FOLLOWS:

Schor, Juliet.

Plenitude : the new economics of true wealth / Juliet B. Schor.

p. cm.

Includes bibliographical references and index.

ISBN: 978-1-101-54356-6

1. Wealth. 2. Sustainable development. I. Title.

HC79.W4S35 2010

338.9'27-dc22

2009046474

DESIGNED BY AMANDA DEWEY

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To Prasanna

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## *Preface*

In the year and a half since I completed the final revisions for the hardcover version of *True Wealth*, a great deal has happened. 2010 has officially been recorded as one of the two hottest years on record. The once-in-a-hundred-year drought the Brazilian Amazon experienced in 2005 was repeated just five years later. There has been a Russian heat wave, severe flooding in Australia and Pakistan, and, in early 2011, news that China's major wheat-producing area is facing its worst drought in sixty years. Agricultural yields for corn and wheat are in jeopardy, and food prices are again rising sharply, leading to hunger and political unrest. Energy prices are also rising, as evidence mounts that we are reaching a peak in oil production. A growing body of research suggests that the massive BP oil spill created far more destruction to ocean ecosystems than the official story allows. All around the world, there are signs of accelerated climate disruption and ecological distress.

And yet I feel hopeful. The grassroots movement I described in the book is thriving. The push for urban food production has been particularly successful and is moving beyond farmers' markets and gardening to the building of sizable enterprises. These include Will Allen's Growing Power in Milwaukee and the remarkable transformation of Detroit, where participants report they are "turning Motown into Growtown." A large-scale effort is well under way in Cleveland, where the Evergreen Cooperatives launched four sustainable businesses—a laundry, a newspaper, a solar power producer, and an organic farm—all of which are owned by low-income workers from the community. There has been tremendous interest from around the country in replicating the "Cleveland model" as urban locales, facing high unemployment, declining investment dollars, and ambitious targets for carbon reduction, look for new ways to move forward. One of the most exciting aspects of these initiatives is that they are laying the groundwork for moving to an economy that is made up of many types of companies with varied ownership structures, motives for action, and ways of operating in the world. We're leaving behind the twentieth-century idea that there's one best model. That means transcending the domination of corporate megaliths to a much more pluralistic, hybridized collection of smaller, varied enterprises.

On the consumption side, the new consumer practices I identified in the book appear to be expanding rapidly, although there are not yet hard numbers to quantify participants or practices. But car sharing, couch-surfing, sharing of unused residential space (Airbnb), freecycling, tool libraries, and the like are proliferating. There are more and more swapping groups and organizations that allow people to exchange used toys, clothing, books, and household items. There are sites to help people share work space, land for gardening, or storage space. Local collectives are sharing cooking, from just soup to whole meals. There has been a growth of groups that share "time"—that is, trade services among each other ("I'll give you a ride if you watch my child.") People are saving money, lightening their eco-footprint, and building community as

they engage in this new world of shared, or connected consumption.

On the economic policy front, however, there is less to be upbeat about. My book situated our environmental challenges within the collapse of the global economy in 2008. The central argument was that our economic system is broken, that standard solutions wouldn't be sufficient—especially to solve the unemployment crisis—and that we needed to move forward with deep transformations that address our ecological footprint and unemployment simultaneously. Developments over the last year and a half support that point of view. I argued that the downturn was far more severe than many economists allowed, that recovery would fail to produce jobs at anything like the rate needed to put people back to work, and that for most Americans, the future held more economic uncertainty and lower real returns for their labor and skills. So far, those predictions are being borne out.

Through nearly two years of “recovery,” job growth has been minimal. More than 25 million Americans remain either fully unemployed, underemployed, or have been discouraged from seeking work. Economic Policy Institute economist Robert Scott estimates that in 2010, U.S. corporations created more jobs abroad than domestically (1.4 million versus 1 million). Substantial productivity growth of 3.5 percent in 2009 and 2010 further reduced demand for labor. Strong outsourcing and productivity growth are two reasons why the standard “trickle-down” approach to job creation—try and rev up the economy as much as possible—will fail.

But it's not only on job creation that standard macroeconomics is failing. Its whole approach is vacuous because it's indiscriminate. How fast can we grow? How big can we get? We remain trapped in this myopic debate when what we need is a conversation not about *how much* but about *what*. What kind of energy system? What kind of transport? Where should investment dollars go? What should people be spending money on? The country has real needs. We've got to reduce carbon emissions; improve education; transform health care; restore degraded ecosystems; shift to safe, organic, localized agriculture; and expand public transportation. The standard approach says the market will sagaciously meet these needs and that decisions about how to deploy our resources should be private. But when income and wealth are so dramatically skewed toward the top as they currently are, and political power is also beholden to wealth, the private market approach produces what those with purchasing power want, rather than what the country or its people need. Standard theory ignores the distribution of purchasing power and comes to incorrect conclusions as a result.

Instead of trickle-down, I argued for reductions in hours of work to make it easier to create jobs and to allocate the jobs we do have more equitably. The latest data on international differences in work time show that the average American now works 350 more hours than his or her counterpart in Germany, a country that weathered the global downturn with almost no unemployment as a result of adjusting hours of work. Recent research from the Organization for Economic Co-operation and Development found that in contrast, U.S. employers deployed few work time adjustments and chose instead to lay off workers at a rate out of proportion to the downturn in GDP. We are living today with that legacy.

How might we shift to shorter hours? We need to build a political consensus on the virtues of using productivity growth to reduce work time rather than to produce more

goods. But while that happens, there are policies that may be feasible now. We could start by having the public sector hire new employees at 80 percent time and 80 percent salary. That will expand the number of people who can be hired by anywhere from 10 to 20 percent. As four-day work weeks become more common in the public sector, there will be some spillover to the private sector. This is an approach that was successfully used in the Netherlands when they faced high unemployment in the 1980s. Eventually the 80 percent schedule spread to the entire financial sector as well as other parts of the economy.

A second possibility is already being adopted by a number of states. They are amending their Unemployment Systems to allow companies to put workers on short hours and use unemployment insurance to make up their earnings loss. There has also been a nascent congressional effort to pass a federal law to give this possibility to all states. It's not a panacea, but it's a start, and its cost is neutral so employers have no objections.

Over the longer run, it'll be necessary to change the culture of time use and the incentives facing employers to get the country back to its historical role as a global leader in reducing work hours. If we can manage that, we'll be able to simultaneously cut our carbon and eco-footprints, put people back to work, and enhance the quality of life for nearly everyone. It's a triple-dividend solution.

In the year since the hardcover was published, I have spoken around the country and in Europe to spread its messages. (When I can I'm using teleconferencing to avoid high-emissions air travel). I have found enormously receptive audiences everywhere. In Europe, the mainstream political discourse in a number of countries has moved into figuring out to manage the post-growth transition, create alternatives to GDP, and achieve the shift to sustainable living. In the United States, where the dominant discourse remains trapped in old paradigms; the action is at the grassroots level. I find widespread understanding that our system is failing and eagerness for new solutions. To bring them to scale, we'll need to work less and grow and share more.

But that's not enough. I am frequently asked about the politics of making this transition. It's complicated and difficult, but there is a path that will get us from here to there. It involves making alliances between people who have lost their jobs and those who care about planetary degradation. It requires cross-generational linkages, as well as cross-race and cross-class alliances. And to get a critical mass of active citizens, it requires engaging people around their everyday concerns and supporting them as they discover that to get real change we've got to come together at the local, state, and national levels for collective solutions. I see it beginning in the alternative food movement, in the activism around climate change, and in the exciting initiatives that are happening in cities around the country. I hope that reading this book inspires you to become a part of these efforts to build a secure, fair, and workable future for the planet and all its inhabitants.

## *Chapter One*

# INTRODUCTION

Global capitalism shattered in 2008. The financial system came frighteningly close to a total collapse and was saved only by government guarantees and massive injections of cash. An astounding \$50 trillion of wealth was erased globally. Economic pain drove people into the streets around the world, from Iceland to Greece, Egypt to China.

Since then, the global economy has been rescued, but it hasn't been fixed. That will require fundamental changes. Climate destabilization, economic meltdown, and the escalation of food and energy prices are warning signs from a highly stressed planet. Ecologists have defined a number of safe operating zones for the earth's complex systems and are finding that human activities have already led us outside a number of them. But the mainstream conversation has been stalled by fatalism. We're better at identifying what can't be done than what we need to accomplish.

There *is* a way forward, and I call it plenitude. The word calls attention to the inherent bounty of nature that we need to recover. It directs us to the chance to be rich in the things that matter to us most, and the wealth that is available in our relations with one another. Plenitude involves very different ways of living than those encouraged by the maxims that have dominated the discourse for the last twenty-five years. It puts ecological and social functioning at its core, but it is not a paradigm of sacrifice. To the contrary, it involves a way of life that will yield more well-being than sticking to business as usual, which has led both the natural and economic environments into decline.

Like most of the sustainability visions that have been offered in recent years, plenitude requires that we adopt cutting-edge green technologies. Without them we cannot ensure the survival of what humans have constructed, and we risk plunging into a hellish future. But it's not a techno-fix. Solving our problems in the time we have available is not possible if all we do is change our technology. We will not arrest ecological decline or regain financial health without also introducing a different rhythm of work, consumption, and daily life, as well as alterations in a number of system-wide structures. We need an alternative economy, not just an alternative energy system.

A body of research, writing, and practice on economic alternatives has been

developing. It is part of the larger movement for sustainability that began in earnest in the 1980s. At first, these perspectives had a hard time piercing the bubble surrounding the growth economy. Today, there's newfound receptivity as people recognize that a true recovery will require more than lifelines and bailouts.

The logic driving plenitude is largely economic, focusing on efficiency and well-being. I'm betting that the intelligent way to act, for both individuals and society, is the one that will make humans, nonhuman species, and the planet better off. Plenitude promises smarter economic arrangements, not just technological improvements. It's a way forward that emphasizes innovation, macroeconomic balance, and careful attention to multiple sources of wealth. In this way, it departs from messages of voluntary simplicity and critiques of consumer culture that contend that less is more, that income and consumption are overrated. Research has shown that outside of poverty they are, but that realization doesn't take us far enough. The bigger prize, true affluence, comes through changes that yield new efficiencies: getting more from less.

The version of plenitude that I describe here is addressed in large part to inhabitants of wealthy countries and wealthy inhabitants of poor ones. But most, although not all, of the principles of plenitude and the economics underlying it are also relevant for lower-income households in poor countries. In its general outlines, if not specifics, it's a widely applicable vision of economic life.

Plenitude is also about transition. Change doesn't happen overnight. Creating a sustainable economy will take decades, and this is a strategy for prospering during that shift. The beauty of the approach is that it is available right now. It does not require waiting for the clean-tech paradigm to triumph. It doesn't require getting government on board immediately. Anyone can get started, and many are. It was the right way to go before the economic collapse, in part because it predicted a worsening landscape. It makes even more sense in a period of slow growth or stagnation. As individuals take up the principles of plenitude, they are not merely adopting a private response to what is perforce a collective problem. Rather, they are pioneers of the micro (individual-level) activity that is necessary to create the macro (system-wide) equilibrium, to correct an economy that is badly out of balance.

That balance won't develop automatically. All large-scale transformation requires collective arrangements to succeed. We need environmental accounting, a mechanism to reduce carbon emissions, and an end to fossil fuel subsidies. We need new labor-market policies. We need to reform our health care, education, and retirement security systems. But while we work for those changes, here's a vision for a way to live that respects the awesome place we call earth and all who live upon it.

### *The Fundamentals of Plenitude*

From the perspective of the individual, there are four principles of plenitude. The first is a new allocation of time. For decades, Americans have devoted an increasing fraction of their time and money to the market—working longer hours, filling leisure time with activities that require more income per unit of time, and buying, rather than

making, more of what they consume. It's time to reverse this trend and diversify out of the market. This doesn't just mean the stock market, although its recent volatility suggests that's one market to which this point applies in spades. Today's smart strategy for many, if not most, households will be to begin a shift away from the formal and centralized sets of institutions and arrangements that are called the market. By "the market" I mean business-as-usual (BAU) economic activity. BAU is a term that came out of the climate discourse to indicate what would happen if we didn't address rising emissions. Here I use it to indicate the continuation of the current economic rules, practices, growth trajectory, and ecological consequences of production and consumption. It especially refers to the large corporate entities that dominate the market and are heavily invested in it. For individuals, relying less on the market spreads risk and creates multiple sources of income and support, as well as new ways of procuring consumption goods.

Concretely, what this means is a moderation in hours of work. For time-stressed households with adequate incomes, it likely means making trade-offs of income for time. Reclaiming time frees up resources to invest in ecologically restorative activities and creates the opportunity to replenish the human connections that were depleted in the boom years. Of course, millions have had an altered equation of time and money painfully thrust upon them through unemployment or other losses of income. For that group, which already has a surfeit of time and not enough money, the advice involves moving forward with plans that are less centered on full-time employment in the BAU economy and more oriented to the emergent sustainability sector, which includes both businesses and the parallel economy developing amid the wreckage of the collapse. This encompasses areas such as household food cultivation, home construction and renovation, and community initiatives such as barter and bulk buying.

This brings us to the second principle of plenitude, which is to diversify from the BAU market and "self-provision," or make, grow, or do things for oneself. Indeed, the rationale for working fewer hours in the market is not only, or even primarily, about reducing stress in daily life (although that is certainly important). Recovering one's time also makes self-provisioning possible and reveals a liberating truth: The less one has to buy, the less one is required to earn. The downturn has accelerated what was already a robust rediscovery of doing for oneself among sustainability pioneers. Plenitude aspires to transform self-provisioning from a marginal craft movement into something economically significant. That requires raising the productivity of the hours spent in these activities. As I argue later in the book, new agricultural knowledge and the invention of small-scale smart machines make it possible to turn household provisioning into a high-productivity—and economically viable—use of time.

These ideas reverse the direction most households have taken in recent decades and contradict what modern economics preaches, which is that specialization, in one skill or one job, is efficient. Specialization may have made sense when the market was offering better returns. Even as wages stagnated, ultra-cheap consumer goods were hard to turn down. Today, in a world of ecological and economic uncertainty and distress, putting all one's eggs in the basket of the capitalist market looks like a more dubious proposition.

The third principle of plenitude is "true materialism," an environmentally aware approach to consumption. In the United States, the speed of acquiring and discarding

products accelerated dramatically before the crash. Consumers knew relatively little about where purchases came from and the ecological impacts of their production, use, and disposal. But many people do care, and want to lighten the footprint of their spending.

Perhaps surprisingly, the route to lower impact does not require putting on a hair shirt. Nor does it entail making consumption less important. Indeed, the plenitude consumer is likely passionate about consuming, and deliberate in the creation of a rich, materially bountiful life. We don't need to be less materialist, as the standard formulation would have it, but more so. For it is only when we take the materiality of the world seriously that we can appreciate and preserve the resources on which spending depends. Living sustainably does mean we can't reproduce a lifestyle of gas-guzzlers, expansive square footage per person, bottled water, and outsize paper consumption. But it doesn't mean we can't have fabulous clothes, low-impact electronic gadgetry, great local food, and a more leisurely mode of travel. Plenitude means that you will actually have time to take the slow boat to China if that appeals.

The final principle is the need to restore investments in one another and our communities. While social bonds are not typically thought of in economic terms, these connections, which scholars call social capital, are a form of wealth that is every bit as important as money or material goods. Especially in times of distress, people survive and thrive by doing for one another. Interpersonal flows of money, goods, and labor are a parallel system of exchange and savings. One casualty of an intense market orientation is that community has gotten thinner and human ties weaker. People haven't had enough time to invest in social connection outside their primary families. By recovering hours, individuals are freed up to fortify their social networks.

These, then, are the individual principles of plenitude: work and spend less, create and connect more. In turn they yield ecological benefits—emit and degrade less—and human ones—enjoy and thrive more.

### *Shifting the Economic Conversation*

In the fall of 2008, as panic swept through the financial system and the economy began to implode, there was a widespread sense that changes, even big changes, would be necessary. Business-as-usual was suddenly called into question. Even capitalism itself was up for discussion. Within six months, only 53 percent of adults would agree that “capitalism is a better system” than socialism. (Twenty percent preferred socialism and 27 percent were not sure. Adults under thirty were about evenly divided between the two options.) But gradually, as conditions stabilized, the status quo reasserted itself. The mainstream conversation about how to reorganize the economy was back in neutral, especially when it came to fundamental questions about how our system is affecting the planet.

Some things did change. After three decades of dominance, conservative economics had lost credibility. Everyone agreed that we couldn't go back to the policies of the previous decade. In the United States, the litany of no-longer-

permissibles included the mushrooming of household debt and a national savings rate of zero, the massive excess of imports over exports, an annual flow of \$453 billion for imported oil, and a financial system run amok. The country needed more savings and investment, and the constituency for getting off fossil fuels had grown. But the backdrop for these views was a return to some version of normal, albeit a slimmed-down model. As a result, what was offered was a series of Band-Aids—bank and insurance company handouts, tax cuts to induce spending, automobile industry bailouts, and extended unemployment benefits. Some hoped that financial regulation and health care reform would be sufficient to ensure long-term stability. It's a long shot.

One reason the conversation reverted to its usual outlines is that macroeconomists, who focus on growth, employment, and the overall economy, have been slow to incorporate ecological data into their worldview. During 2007 and 2008, the same period that the housing and credit markets were collapsing, dramatically bad news was surfacing on the climate front. Developments since the 2007 Intergovernmental Panel on Climate Change (IPCC) report, whose data ended in 2006, have been grim. Arctic sea ice was melting at hitherto unimaginable rates, and oceans were rising at more than double the IPCC report's maximum possibility. Drought conditions were spreading. World emissions were sharply up in 2007, and in June 2008, James Hansen, NASA's leading climate scientist, told Congress that the CO<sub>2</sub> target "we have been aiming for is a disaster." By February 2009, the news was worse, with scientists reporting that the speed of climate change was already beyond anything considered in the last round of models. Hansen and his colleagues warned that carbon dioxide levels beyond 350 parts per million are incompatible with preserving a planet "similar to that on which civilization developed." But we were already at 385 and rising.

Yet it was as if the people charged with tending the economy were unaware of the breaking news on climate. The main conversation was about how to put more money into people's hands and how to get them back to buying cars, any cars; building more houses, whatever their dimensions; and accumulating more stuff. The bailout and recovery efforts cost trillions, yet only 6 percent, or \$52 billion, of the stimulus was actually "green." Amazingly, General Motors and Chrysler were handed \$30 billion without a requirement for conversion to hybrids, much less any provision for the far more fuel-efficient mass transport that the nation desperately needed. The approach relied on reviving a highly destructive pattern of consumption and growth and the fiction that our economic system is basically sound. Barack Obama tried to do more to address ecological impacts, but has made limited progress. As the world was hurtling toward an ecological precipice of unfathomable dimensions, the macroeconomic conversation was basically about how to get there faster.

What's more, the problem extends beyond climate. Research from the traditional sciences, as well as the thirty-year-old field of sustainability, is finding that ecosystems of all types are under threat. Humans are degrading the planet far faster than we are regenerating it. Dead zones are proliferating rapidly in the oceans; farmland is morphing into desert. Biodiversity is shrinking, and we're into the sixth mass extinction of species. If current trends continue, some scientists have warned that by 2050 the oceans will be devoid of fish, the primary source of animal protein for a billion people.

This is not to say that economists were intellectually stuck. Many were embracing key features of Keynesian economics, despite the fact that much of the profession had roundly, and self-confidently, rejected these ideas in the previous decades. Rediscovered Keynesian ideas included the wisdom of running government deficits, an understanding of the volatility of investors' "animal spirits" (optimism), and, above all, the fact that the market does not necessarily self-correct. However, the point of recent economic policy has been to put the pieces "back together" again, that is, to return to what we had, rather than to transform the system.

By contrast, on the street, people began moving on almost as soon as the economy started sinking. After the crash, the savings rate shot up and discretionary purchases plummeted. Research on how consumers were experiencing the collapse found that they were making major adjustments in their attitudes to spending, debt, and lifestyle. A declining fraction of the population considered appliances such as dishwashers, air conditioners, microwaves, TVs, and cable and satellite dishes to be necessities. Interview research in late 2008 found a five-stage process that began with a "goodbye *homo economicus*" epiphany and continued through to a recalibration of what is important in life. People talked about a shift from an economy of "me" to an economy of "we," from status-oriented spending to reengaging with the difference between needs and wants. The anthropologists who conducted the study were surprised to find this "larger, more existential debate." But the public is aware that the American way of life is not sustainable. Surveys I worked on as early as 2004 found that more than 80 percent of the population agreed that protecting the environment would require "most of us to make major changes in the way we live." The years since then have increased ecological awareness and urgency. There's no consensus on what to do, but there's recognition that business-as-usual is failing.

Brand economics has been tarnished. This comes after a period of unusual prestige. Within universities, the discipline had been riding high. Among the public, there has been tremendous interest in how economists think, with Paul Krugman's hugely popular writing, bestsellers such as *Freakonomics*, and ongoing columns, such as David Leonhardt's for the *New York Times*, devoted to the profession. But, with some notable exceptions, economists failed to see the financial, housing, and economic crises coming. Princeton's Uwe Reinhardt noted that they "slept comfortably" while Wall Street imploded. Yale's Robert Shiller has invoked the concept of "groupthink" to explain why. Whatever the reason, what occurred in 2007 and 2008 was a monumental blunder. We can't afford a repeat when it comes to the health of the planet.

And we don't have to. What's odd about the narrowness of the national economic conversation is that it leaves out theoretical advances in economics and related fields that have begun to change our basic understandings of what motivates and enriches people. The policy conversation hasn't caught up to what's happening at the forefront of the discipline.

One of the hallmarks of the standard economic model, which hails from the nineteenth century, is that people are considered relatively unchanging. Basic preferences, likes and dislikes, are assumed to be stable, and don't adjust as a result of the choices people make or the circumstances in which they find themselves. People alter their behavior in response to changes in prices and incomes, to be sure, and

sometimes rapidly. But there are no feedback loops from today's choices to tomorrow's desires. This accords with an old formulation of human nature as fixed, and this view still dominates the policy conversation. However, there's a growing body of research that attests to human adaptability. Newer thinking in behavioral economics, cultural evolution, and social networking that has developed as a result of interdisciplinary work in psychology, biology, and sociology yields a view of humans as far more malleable. It's the economic analogue to recent findings in neuroscience that the brain is more plastic than previously understood, or in biology that human evolution is happening on a time scale more compressed than scientists originally thought. As economic actors, we can change, too. This has profound implications for our ability to shift from one way of living to another, and to be better off in the process. It's an important part of why we can both reduce ecological impact and improve well-being. As we transform our lifestyles, we transform ourselves. Patterns of consuming, earning, or interacting that may seem unrealistic or even negative before starting down this road become feasible and appealing.

Moreover, when big changes are on the table, the narrow trade-offs of the past can be superseded. If we can question consumerism, we're no longer forced to make a mandatory choice between well-being and environment. If we can admit that full-time jobs need not require so many hours, it'll be possible to slow down ecological degradation, address unemployment, and make time for family and community. If we can think about knowledge differently, we can expand social wealth far more rapidly. Stepping outside the "there is no alternative to business-as-usual" thinking that has been a straitjacket for years puts creative options into play. And it opens the doors to double and triple dividends: changes that yield benefits on more than one front. Some of the most important economic research in recent years shows that a single intervention—a community reclamation of a brownfield or planting on degraded agriculture land—can solve three problems. It regenerates an ecosystem, provides income for the restorers, and empowers people as civic actors. In dire straits on the economic and ecological fronts, we have little choice but to find a way forward that addresses both. That's what plenitude offers.

### *The Road Ahead: Economic Performance 2010–2020*

A core principle of plenitude—diversifying out of the BAU economy—is predicated on a view about what the future holds. After the crash, economists put forth a wide range of predictions about the depth and length of the downturn whose only common denominator was uncertainty. The severity and uniqueness of the event led to uncharted territory, in which large-scale models, never all that accurate, were highly unreliable. Economists reverted to simplified mental schema, instinct, and estimates of probabilities. Even a year later, no one really knew whether the green shoots and early signs of growth would last after the stimulus dollars dissipated. The future may bring recovery, stagnation, or even another downturn. What I am about to say must be understood in that context.

The economy is broken in fundamental ways, as are the local and global ecosystems on which it depends. Quick fixes won't solve its problems. Creating a truly sustainable system will require ecological restoration and technological innovation, over a period of many years. Plenitude is a strategy for thriving during that transition. The basic ideas of the plenitude approach were formulated during a period when the economy was expanding, but many, including me, questioned its ability to continue with business-as-usual. As a result, the plenitude logic is most apparent during rough periods for the conventional market. But even when growth resumes, the approach remains relevant. That's because it's oriented to the medium term, the next decade and beyond.

A key prediction is that the days of sky-high market returns are over. The twin bubbles in finance and housing were a mirage. We now know that many of the gains were illusory, such as, for example, billions in fictitious profits in the financial sector. Rising prices for land, housing, and other assets were propelled by unrealistic valuations. The BAU economy is in for a long slide.

The view that future returns will be lower comes in part from looking at historical data. [Figure 1](#) charts the rate of profit for the U.S. economy from 1948 to 2005. It shows that in addition to short-term ups and downs, profitability has long swings. From 1948 until 1982, the long-term trend was down. The stagflation of the 1970s led to a major restructuring that began in the early 1980s. Then profits began to rise, and were on an upward trajectory until the 2008 downturn. It's likely the peak has been reached and we're in for another decade or two of slide. There will be less income for individuals and households. Debt-fueled growth will be replaced by higher household savings, which means that fewer dollars will be available for consumption. Indeed, as is often the case, factors that led to high profits, such as the erosion of workers' earnings and the breakdown of effective regulation, resulted in vulnerabilities down the road. One doesn't have to believe we're facing a decade of stagnation to think we're headed for a less prosperous period.

FIGURE 1 Profitability of the U.S. Economy, 1948–2005



Source: Wolff (2009, Chapter 2)

The dominance of the United States globally is also on the wane, and there's nothing like a worldwide downturn to bring that reality home. For decades, the country has benefited from its special position in many ways. Americans could live beyond their means with a whopping trade deficit because others have been willing to accumulate the dollars that flow outside the nation's borders. But the economic collapse made foreign investors and central bankers nervous about all currencies, including the dollar. American workers have long enjoyed a wage gap relative to those in poorer countries; however, open markets and international competition erode wage differences. Companies have used the downturn to reduce compensation and locate even more jobs offshore.

Even when growth picks up again, there will be large sectors in permanent decline—automobiles, industrial farming, and perhaps even fossil fuels will be smaller and less profitable industries, if they're profitable at all. With a downturn this severe, there will be a protracted and difficult process of weeding out low-performing industries, companies, and products, or what the Austrian economist Joseph Schumpeter called creative destruction. It will take time to re-create the classic conditions for prosperity, such as confidence, financial regulation, monetary stability, consumer demand, and a steady policy hand. Due to the complexity of the global economy, the challenges are far greater than we've ever faced.

As we move forward, the fatal flaw of the current growth regime—climate change and other ecological limits—will rear its ugly head. These problems have already started to affect the bottom line, reducing profits and incomes. Examples include the soaring food and energy prices of 2006 and 2007; the proliferation of extreme weather events, like droughts and floods in the southeastern United States; and agricultural losses due to disrupted ecosystems and species die-offs. Most economic calculations on climate change deal with future costs, but in 2009, a research group released one of the first reports to detail the human and economic costs already being paid. Three hundred and fifteen thousand people are currently dying from climate-change-induced weather and other impacts each year; 325 million others are seriously affected; and the annual price tag is \$125 billion, with the vast majority of financial damage occurring in wealthy countries. (The majority of deaths are in poor nations.) Hurricane Katrina alone is estimated to have cost \$100 billion. These numbers are expected to rise dramatically in coming years.

Ecological devastation will not only lower the average returns available; the market will also become more volatile. The instability of climate and the running down of ecosystems are not smooth processes. Expect a rockier road.

Does it have to be this way? What about the much-vaunted ability of the market to generate productivity growth, technical change, and wealth? Technological optimists see green innovation as the platform for a new round of growth and stability.

To see how this will likely play out, we need to unpack the idea of growth. This overused term lumps together two very different dynamics, only one of which is really expansion. *Intensive growth* means using a fixed set of resources with greater efficiency. This productivity growth is rightly understood as the cornerstone of economic progress. As we begin to produce more sustainably, it'll be because we make technological and other changes that yield efficiencies in the use of natural capital. A shift to organic and local agriculture, passive solar homes, wind power, and

other forms of renewable energy will result in genuine productivity increases. Other true efficiencies can be had through information technology and enhanced human capital. To the extent that this kind of growth occurs, it will indeed provide opportunity and real wealth.

But most of the time when people (and economists) use the word *growth*, they are also referring to the process of pulling in new factors of production, or what's called *extensive growth*. It is so named because it extends the scope of the market, or capitalist, sector, as it replaces public, household, or other types of production. Gross national product and other measures of output and income conflate intensive and extensive growth. But the extensive type is not really growth. It's a shift of resources from one economy to another, or the use of a nonrenewable asset. Drawdowns of capital from the natural world to the market economy (e.g., felling timber, mining, overfishing, and using fossil fuels) are one example. If enough extensive growth occurs, the economies from which those resources are drawn become depleted or, if the process goes far enough, devastated. Eventually, extensive growth starts to become less profitable because the assets being used up get scarcer. It can eventually lead to blowback, which is now happening with the climate system, oceans, and forests.

While the standard account of economic development stresses factors such as human ingenuity, education, and physical capital, that view is beginning to be challenged by environmental historians and social ecologists. Some historians now argue that much of the growth of the industrial period has been of this extensive type, made possible by tapping into fossil fuel sources. We've long been aware that the industrial revolution depended on coal. What we haven't done is work through the implications of that for the post-carbon era. Bill McKibben has put the point powerfully: "Fossil fuels were a one-time gift that underwrote a one-time binge of growth."

The point is also true for other natural resources. Beginning in the sixteenth century, Europe and Asia deforested in order to grow, and resource depletion has been ongoing since then. Over the last few decades, a significant fraction of market expansion has occurred through running down ecosystems. The first national study to assess the extent of the overstatement of growth was done for the 1970s and '80s for Indonesia, and found that half its measured gross domestic product growth disappeared once timber, oil, and soil depletion was factored in. The situation is even starker in China, where torrid growth has created environmental and social havoc. Studies of environmental degradation have found that Chinese GDP was overstated by 8 to 13 percent in the 1990s, and suggest the figure may have grown to as much as 25 percent now. U.S. consumption, fueled by Chinese exports, has become reliant on these drawdowns from nature. A recent estimate of the value lost on a worldwide basis to deforestation alone puts it at \$2 trillion to \$5 trillion a year.

For the United States, we do not yet know how large the overstatement of market growth has been in recent years. In the early 1990s, the Bureau of Economic Analysis began work on a series of environmental accounts that would allow us to answer that question. But their efforts shortly ran afoul of the coal industry and Republican opposition, and Congress forbade the bureau to continue. The restriction has only been lifted recently, so no comprehensive measures exist. One study of the U.S. electric power industry quantified "off the books" (i.e., currently unaccounted for) liabilities

associated with three types of emissions (carbon dioxide, sulfur oxides, and nitrogen oxides). When these are added to official net operating after-tax profits for 2004, the industry total of \$22.2 billion in earnings is converted into a net loss of \$28.2 billion. Only four of the thirty-three companies included in the study remained profitable after accounting for pollutants they are releasing. Of course, electricity production has a much higher environmental impact than most activities, but reliance on artificially cheap imported fuel, chemical-intensive agriculture, and underpriced manufactured goods creates a similar gap in other sectors. As sustainability asserts itself as an imperative, we can expect to get the necessary environmental accounting.

When the faulty measurement ends, there will be another giant write-down, on top of the financial balance sheet adjustments of 2008 and 2009. There are trillions in fictitious incomes and real costs that haven't been reckoned with yet. If we commit to sustainability, measured annual returns will tend to be lower, at least for the medium term. One consequence is that the business-as-usual market will be relatively disadvantaged, because it is highly resource-intensive. Many large global corporations are especially vulnerable, because they are most dependent on unsustainable practices. If we don't commit to sustainability, the costs of collapsing ecosystems will accelerate, perhaps very rapidly.

Fair enough, but what about the emerging green sector? Won't it be expanding quickly in this scenario, and doesn't it provide an alternative to the diversification strategy? There's no question it's the direction we must go. It will provide real, not fictitious, opportunity. We'll be designing a whole new way to produce and consume based on ingenuity rather than on using up materials. In large part, plenitude is a way to allow individuals to participate in building this new economy. But we're in the early stages of the transition. The experience so far is that companies have been surprisingly slow to embrace sustainable production methods. And no single sector can compensate for the much larger trends from the whole economy. Green businesses will provide only a limited number of jobs, especially right now.

If you're lucky enough to land a good-paying job with a thriving green company, you may want to dive in headfirst. However, as we learned in the 1990s tech boom, there can be an ephemeral quality to a rapidly emerging sector, even for some of the highest-flying companies. In 2008 the surging renewable-energy sector ground to a halt, stymied by the credit crunch. And much of what's passing as green today is sustainable in one, rather than all, of its dimensions. Hybrid vehicles emit less carbon, but their batteries are toxic. They're better than BAU vehicles, but cannot yet be produced in large quantities without negative eco-impacts. So while they're essential, today's green products and technologies are not a magic bullet.

And if the broader economy does recover soon, and global expansion gets back on track? Then we'll be back up against some of the factors that triggered global problems in 2007 and 2008. The prices of food and energy, which were soaring, will likely start rising again. Food (which is eaten by workers) and energy are inputs into virtually everything that is produced. The index of primary commodities, which includes wood, metals, minerals, fuels, and other inputs, rose 23 percent per year from 2003 to 2007, with most explanations crediting strong demand. (Demand from China alone is a major contributor to higher prices.) Food prices rose 9 percent annually. At no time in the last sixty years have commodity prices increased at this rate. Exactly