

Post-Real Economics

By John Mauldin | January 29, 2017

Economists and Madmen

The Fatal Assumption

Model Behavior

Post-Real Economics

Information Theory and Complex Systems

Everything Old (in Economics) Is New Again

Florida, Dallas, and the Caymans

“Too large a proportion of recent ‘mathematical’ economics are mere concoctions, as imprecise as the initial assumptions they rest on, which allow the author to lose sight of the complexities and interdependencies of the real world in a maze of pretentious and unhelpful symbols.”

– John Maynard Keynes

“Simplicity does not precede complexity, but follows it.”

– Alan Perlis

“Stop trying to change reality by attempting to eliminate complexity.”

– David Whyte



One of the most important concepts that my economic, philosophical, and political mentors have drilled into my head is this simple statement: Ideas have consequences. As a corollary to that, bad ideas have bad consequences. Mauldin's corollary is that bad ideas can often overwhelm good ideas when applied by government bureaucrats, and that long after the market has rejected bad ideas, they may live on in academia and government bureaucracies.

Let me offer a somewhat controversial statement: Economics in general is populated at its core by a lot of bad ideas. And these bad ideas have come to be accepted as the correct interpretation of how the economy functions and thus have become the basis for economic policy.

Thus it should come as no surprise that, like so many other hidebound institutions these days, the economics profession is experiencing a crisis of confidence. Theories advanced by some of its supposedly most talented members have proven time and again to be wrong when applied to the real world. But rather than rejecting their theories, most of the economic establishment continues to tinker around the edges.

This is not the first time that such a crisis has occurred in economics. We have seen economists espouse mercantilism, Malthusianism (a particularly pernicious branch of economics), Marxism and communism, socialism and its twin brother fascism, Austrian economics, capitalism, the gold standard and its cousin bimetallism, monetarism, protectionism, and a whole list of corollary theories like rational expectations, the efficient market hypothesis, and dynamic stochastic general equilibrium. Add to these the growing popularity of New Monetary Theory and variations on it. This list is by no means exhaustive, but just reading it is somewhat exhausting. Some of these theoretical bulwarks have already been dismantled, but others still clutter the halls of academia and policymaking.

I have been quite scathing in my treatment of economists who rely on models that are consistently wrong. I've been critical of Keynesianism and the worlds of rational expectations and the efficient market hypothesis, but I have not actually offered an alternative view other than to generally espouse a more Hayekian approach, with more than a casual nod to Adam Smith and the French economist Bastiat, along with the rest of the classicists. But this eclectic mixture is not really an economic basis for policy-setting in the future. My lack of specificity can pretty much be explained by my ongoing search for a better approach.

This week's letter is going to be an examination of academic economics today and why it fails to explain reality, and I'll point readers in a direction that can offer a more fruitful explanation of how the economy really works. I readily accept that I will be drummed out of most economists' *Lamb's Book of Life* for espousing too many heresies of the first order. I should hasten to say that much economic research is quite useful and does help to explain how the world works. It is just certain specific branches of economics that have been problematic, but these are the branches that have most influenced government and Federal Reserve policy.

Economics in general has a problem. It wants to be seen as a true science, on the level of physics or biology or chemistry, rather than one of the soft sciences like sociology or history. At various

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times, economics has been called “political economy” or “philosophical economy.” Political economy was, in the words of Adam Smith, “an inquiry into the nature and causes of the wealth of nations,” and in particular “a branch of the science of a statesman or legislator [with the twofold objectives of providing] a plentiful revenue or subsistence for the people... and to supply the state or Commonwealth with a revenue sufficient for the publick services.”

That is still a pretty good definition of what economics should be. What many in the profession have attempted to do, however, is to make economics a branch of mathematics.

True science has rules you can't break. The law of gravity makes for very specific physical behavior that can be mathematically modeled. Economists want us to believe that their own theories and models of reality are similarly reliable. Utilize them faithfully and they will lead us to economic bliss: a state of Equilibrium where all factors exist in Blessed Balance. And the really wonderful thing about this notion is that if the system you are describing is said to be in balance, you have some chance of describing it mathematically. And that allows your philosophical economic science, which can discuss only possibilities about how the world works (as the lowly sociologists and psychologists do), to be elevated above the mere social sciences.

By the way, this is not a slam aimed at the so-called “soft sciences.” There is an enormous amount of solid research that is being done to help us understand the intricacies of the human mind and society. That it is not mathematical makes it no less useful. And that is pretty much my view of economics. Economics is an enormously useful tool for those of us who are trying to understand business and investments and government policy. But to paraphrase Dirty Harry, “An economist has to know his limitations.”

The whole concept of an economy's being in equilibrium is simply academic nonsense. Equilibrium is a chimera that exists only inside assumption-ridden equations. The real world is a complex, dynamic, out-of-balance mess that doesn't fit inside anyone's box. Those theories and equations only work when you assume away the real world. So is it any wonder that the models don't give us results that look like the real world?

Economists and Madmen

One of my favorite Keynes quotes (and there are lots of them) is:

Practical men who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.

The problem in economics is that not only economists but politicians and people in general take economic models and the academics who create them seriously. After all, the people offering these dictums are the best and brightest among us. They give each other degrees and go to conferences where they confirm their brilliance. Sadly, they are often what Nassim Taleb describes as “intellectuals yet idiots.” Seriously, how do you argue with a PhD economist, especially when he

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has a Nobel prize to back up his pronouncements? He looks down on you as a naïve child who doesn't have the understanding of a mature adult.

How can the very people who claim to understand how the economy works be so bad at predicting and managing it? The quick answer is that the real economy is far more complicated than they're willing to admit. I can imagine this is hard medicine to swallow when you have spent years trying to simulate an almost infinitely complex system with computer models that are necessarily limited as to inputs, variables, and algorithmic sophistication. But if your model tells you very little about reality, what good is it?

Fortunately, some economists recognize these limitations and are looking for better ways to understand the economy. *Unfortunately*, that group is vastly outnumbered by old-school economists in government, central banks, international institutions, corporations, and universities. They are everywhere, and they have the ear of those who make important decisions that affect all of us.

The Fatal Assumption

As much as I like to quote John Maynard Keynes (he does have the best quotes in economics), I find his basic thesis to be the fundamental flaw in current macroeconomic thinking. Quoting from [Wikipedia](#),

In the 1930s, Keynes spearheaded a revolution in economic thinking, challenging the ideas of neoclassical economics that held that free markets would, in the short-to-medium term, automatically provide full employment, as long as workers were flexible in their wage demands. He instead argued that aggregate demand determined the overall level of economic activity and that inadequate aggregate demand could lead to prolonged periods of high unemployment. According to Keynesian economics, state intervention was necessary to moderate “boom and bust” cycles of economic activity. Keynes advocated the use of fiscal and monetary policies to mitigate the adverse effects of economic recessions and depressions.

And there you have it. The fatal assumption is that aggregate demand is the most important factor in economics, and that if aggregate demand isn't sufficient, then it is up to the government to run deficits to stimulate that demand. This of course made all proponents of government intervention happy, and they latched onto Keynes's theory with relish. The theory has since morphed into all sorts of interventionist neo-Keynesian nonsense.

Essentially, Keynesians of all stripes see the recovery that followed a recession as the result of the deficit spending enacted to rescue the economy. Look, they say, it has happened every time. They fail to recognize that the activities of individual businessmen and women, plus the self-interested acts of millions of individuals, were the true driving force behind the recovery. Thus they unwisely prescribe even greater deficit spending and more debt to counter recessions but routinely fail to adhere to Keynes's dictum that during good times that debt is to be paid down. They refuse to

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recognize the obvious connection between distorted debt levels and the lack of growth in an economy – a connection that has been demonstrated time and time again all over the world. (Yes, bad policy can inhibit growth, but at some point debt becomes an inhibitor in and of itself. Please remember that this is a letter and not a book, so I can't go into the detail many of you would like to have.)

The point – as we will confirm in a moment when we reconsider classical economics – is that it is income that is the driver for the economy.

Once Keynesianism began to hold sway in government circles, Franklin Roosevelt, in an obvious political move, chose to include the activities of government in the models they were using to estimate gross domestic product (GDP). Government spending does influence an economy, but it is largely an accounting fiction. We take money from taxpayers and give it to other people. Often the money is actually put to quite good uses, like building roads and paying for police services, education, and so on. Infrastructure improvements can, over the long term, increase the productivity of the economy, but spending on them does not necessarily add to productivity. The same goes for entitlement payments (Social Security and the like) and other transfer payments from one segment of the (hopefully) tax-paying population to another. While these may be fair and useful, they do not increase productivity in any direct sense.

I understand that this is a contentious argument. The great majority of economists have been trained to see consumption and government spending as principal drivers of the economy. I see these two as secondary, and productive behavior in the private economy as the primary driver. Government serves a very necessary societal function. I am not arguing for a particular size of government here, but rather arguing what the basis of government policy-making should be. And it should not be consumption, aided and abetted by government spending.

Model Behavior

Then we come to the concept of general equilibrium. Pretty much every economist accepts some variant of the concept of general equilibrium. I have come to the point where I completely reject the notion: it's utterly false. **There is no general equilibrium of any kind.**

Scientists thrive in a laboratory setting. They establish controlled conditions and then test their variables, observing how each affects the outcome of the experiment. This works well if you are studying chemistry or physics. Whether it also can work if you're trying to determine the state of the economy, much less forecast it, is far from clear – but that hasn't stopped economists from trying.

Today's most popular macroeconomic models come in a flavor called "Dynamic Stochastic General Equilibrium." The cool kids call them "DSGE" models. They are dynamic because they show economic changes over time, and stochastic because unexpected shocks to any of the inputs can drastically change the outputs.

Central banks are the most enthusiastic DSGE model users. If you believe their policies have worked well in recent years, then you may be a DSGE believer. I am not. I think a main reason DSGE models fail is that they assume everyone is similarly informed and always makes rational decisions. Neither of those things is true in the real world. Actually, central bankers think they are so much better informed than the rest of us that they can decide the direction of the economy for us. And they think their decisions are rational – never mind that, time after time, the outputs of their models fail to predict what actually happens.

As I said, there is growing discontent in the economics community. Listen to Robert Solow, winner of the 1987 Nobel Prize in Economics (who contributed enormously to our understanding of growth and the importance of technology on growth). Three of his doctoral students are also Nobel laureates. I don't agree with Solow on everything, but he is not at all a fringe figure. Here's what he said (at the age of 85!) about DSGE models (under oath, no less) in 2010 House committee [testimony](#).

I do not think that the currently popular DSGE models pass the smell test. They take it for granted that the whole economy can be thought about as if it were a single, consistent person or dynasty carrying out a rationally designed, long-term plan, occasionally disturbed by unexpected shocks, but adapting to them in a rational, consistent way.... The protagonists of this idea make a claim to respectability by asserting that it is founded on what we know about microeconomic behavior, but I think that this claim is generally phony. The advocates no doubt believe what they say, but they seem to have stopped sniffing or to have lost their sense of smell altogether.

Ouch. That's a harsh condemnation, but Solow doesn't let up. He offers an example:

An obvious example is that the DSGE story has no real room for unemployment of the kind we see most of the time, and especially now: unemployment that is pure waste. There are competent workers, willing to work at the prevailing wage or even a bit less, but the potential job is stymied by a market failure. The economy is unable to organize a win-win situation that is apparently there for the taking. This sort of outcome is incompatible with the notion that the economy is in rational pursuit of an intelligible goal. The only way that DSGE and related models can cope with unemployment is to make it somehow voluntary, a choice of current leisure or a desire to retain some kind of flexibility for the future or something like that. But this is exactly the sort of explanation that does not pass the smell test.

What Solow is getting at in his testimony above is the idea of "equilibrium." That's the end state of DSGE models. The economy attains a kind of balance where all the variables are happy with each and stay that way until something comes along to change them.

In fact, this sort of equilibrium never exists in the real world because the real world never stops changing. Thus neither we nor our estimable central bankers should be surprised when DSGE

models don't deliver much useful information.

Post-Real Economics

The concerns I am expressing aren't new to macro-oriented economists. They've been arguing them for years, without the public's noticing or caring. To the extent that non-economists have heard anything of this argument at all, most have probably dismissed it as more incomprehensible ivory-tower babble.

The dismissals have morphed to criticism over the last year or two as the global economy has stubbornly refused to recover from the Great Recession at anywhere near the rate of past post-recession growth cycles. Economics has come under fire along with other "establishment" institutions that are perceived as uncaring and out of touch. The criticism grew more intense – and more effective in the past year as Brexit and then the Trump victory proved that the masses are real people and not just faceless numbers dwelling inside someone's model.

To my point, while I was putting the finishing touches on another rant on this very subject last September (see "[Negative Rates Nail Savers](#)," in which I argue that low and negative rates are a drag on the economy, not a boost as the models assume), contrarian NYU economist (and now World Bank chief economist) Paul Romer published what professors like to call a "seminal paper," titled "[The Trouble With Macroeconomics](#)." It is only 26 pages and not too technical, so I urge everyone to read it. (Interestingly, Romer has also done further work on Solow's growth theories, showing not only that technological progress is a primary driver for growth but also that this technological change is the result of intentional actions of people involved in research and development.) Romer lights into his peers in colorful language not often encountered in the halls of academe. From his introduction...

For more than three decades, macroeconomics has gone backwards. The treatment of identification now is no more credible than in the early 1970s but escapes challenge because it is so much more opaque. Macroeconomic theorists dismiss mere facts by feigning an obtuse ignorance about such simple assertions as "tight monetary policy can cause a recession." Their models attribute fluctuations in aggregate variables to imaginary causal forces that are not influenced by the action that any person takes.

Romer then makes a very interesting comparison between what he calls "post-real" economics and string theory, which is a branch of physics. Like macroeconomics, string theory deals with vast systems jam-packed with unknown variables and incomplete data. Here's Romer (emphasis mine):

The conjecture suggested by the parallel is that developments in both string theory and post-real macroeconomics illustrate a general failure mode of a scientific field that relies on mathematical theory. The conditions for failure are present when a few talented researchers come to be respected for genuine contributions on the cutting edge of mathematical modeling. Admiration evolves into deference to these leaders. Deference leads to effort along the specific lines that the leaders recommend. Because guidance from authority can

align the efforts of many researchers, conformity to the facts is no longer needed as a coordinating device. **As a result, if facts disconfirm the officially sanctioned theoretical vision, they are subordinated. Eventually, evidence stops being relevant. Progress in the field is judged by the purity of its mathematical theories, as determined by the authorities.**

Ouch. “Eventually, evidence stops being relevant” smells a lot like central bank and political decisions we have seen the last few years. We have seen our deciders act *opposite* the evidence on more than one occasion.

Physics is unquestionably a science. But is macroeconomics a science? I’ve never thought so. To me, it is intuitively obvious that no model can capture the impact of untold trillions of human decisions that add up to the complex, dynamic system that we call the economy. If you can’t form an economic hypothesis and then test it, then you may be doing valuable work; but your results are merely descriptive in nature and necessarily imprecise. The usefulness of your research may be observable in the real world, but it should not necessarily be taken as prescriptive.

Now, economics does have some sub-fields that are much closer to hard science. Behavioral economists study how individuals make decisions under certain conditions. They can design experiments, administer them to actual people, and observe results. This work can give us some useful insights. Macroeconomics, as currently practiced, not so much.

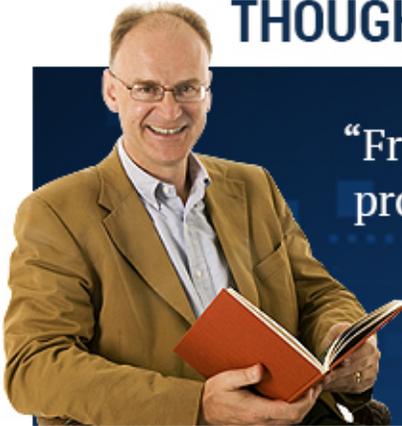
Information Theory and Complex Systems

I think that to have any hope of correctly analyzing the economy, we are going to have to continue trying to understand the complexity of natural systems – because that exactly what the economy is. The basis for creating policy should be to foster dynamic, growth-oriented complexity in the form of entrepreneurial activity. To understand that activity and promote it, we need to marry information theory with the new field of complexity economics.

(Next week I’ll be arguing that the current protectionist impulse is precisely the wrong way to go about creating jobs. As in 180° wrong. As in a job-destroying nightmare. At its root lies the same impulse that gives rise to centralized, command-and-control economies. If you want to create jobs, you make it easier to create new businesses, not harder. That is what all the data tells us. But that’s for next week. This is a good place to mention, though, that Matt Ridley has just been added to our roster of speakers for the upcoming Strategic Investment Conference...)

THOUGHTS FROM **SIC2017** SPEAKERS...

STRATEGIC INVESTMENT CONFERENCE



“Free trade causes mutual prosperity while protectionism causes poverty... incredible that anybody ever thinks otherwise”

—**Matt Ridley** (just announced for the SIC!)

FIND OUT MORE

Let’s look at information theory first. It may have been best explained by my friend George Gilder in his must-read book [*Knowledge and Power*](#).

Information theory, at its root, is about distinguishing signal from noise. A signal is broadcast into the air or goes down a telephone line or through a fiber-optic cable, and the challenge is to sort out the actual signal from the noise that accompanies it.

In the world of economics, an entrepreneur has to distinguish amidst the market noise a signal that a particular good or service is needed. But if some force – a government or a central banks, for instance – distorts or corrupts the transmission of the signal by adding noise to the system, the entrepreneur may have difficulty interpreting the signal and may potentially respond to the wrong message. (Of course, there are times when government has to step in and signal that certain types of behavior are not acceptable for the overall good of the society.)

“The economy is not chiefly an incentive system,” George asserts; “it is an information system.” And information, truly understood, is about the introduction of novelty, or “surprise,” into a system. In the case of the economy, it’s about invention and entrepreneurship. The new information that is injected gets converted into knowledge; and thus, says George, it is accumulated knowledge, rather than money or material, that constitutes true wealth. The economy is driven not so much by powerful people and institutions wielding the levers of the economic machine as it is by the ever-growing power of information and knowledge.

Economists and the governments they work for often appear to prefer a deterministic, no-surprises (and too-big-to-fail) economy, but that way lies economic stagnation. If determinism worked, socialism would have thrived. Knowledge is centrifugal: it’s dispersed in people’s heads, and that has never been more true than in the Age of the Internet. And it is this universal distribution of knowledge, which feeds back to the economy through the creative insights and entrepreneurial efforts of people worldwide, that constitutes our chief hope for economic growth in the era opening up before us, where the limits of monetary manipulation and material extraction are

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becoming painfully apparent.

Here is a telling sentence from George:

Whether fueled by debt or seized by taxation, government spending in economic “stimulus” packages necessarily substitutes state power for knowledge and thus destroys information and slows economic growth.

The writing is on the wall: Either we reinvent ourselves and our global economy, or the noise that is obviously building in the system will overwhelm the creation and transmission of knowledge, and the great human quest for the democratization of wealth will fail. But, as George says, “[C]apitalism is not a system of equilibrium; it is an engine of disruption and invention.... A capitalist economy can be transformed as rapidly as human minds and knowledge can change.” So we do have plenty of grounds for hope.

And then we have the newly emerging field called complexity economics, which is much better suited than Keynesianism to what we all want from macroeconomic research. It comes out of a broader complexity theory that encompasses many disciplines. The common thread is they all examine “complex systems.”

Your body, for instance, is a complex system. You have trillions of cells that specialize in certain tasks but also adapt to changing conditions. Your white blood cells perceive an infection, respond to it, and then stop responding when they detect it is gone. Other systems respond in various ways to support the defensive reaction. How do all these different kinds of cells know what to do, when to start doing it, and when to stop? That’s a complex system for you.

Economies are likewise complex. Millions of consumers and producers each have their own resources: capital, land, labor, knowledge, etc. They are constantly buying, selling, learning, creating, destroying, and otherwise modifying the system’s elements. It’s a giant mess, when you think about it, yet somehow order emerges from the chaos.

Or does it? What we perceive as order may be anything but, because conditions never stop changing even if we can’t readily detect the change. This reality points to a fundamental difference between classical and Keynesian economics and their equilibrium models and the new complexity economics. The latter recognizes that there can be no equilibrium in a constantly changing system. Complexity economics also recognizes that people don’t have perfect information and therefore don’t make perfect decisions.

Some of the best complexity research, in economics as well as other fields, comes out of the [Santa Fe Institute](#). *Rolling Stone* magazine described SFI as “A sort of Justice League of renegade geeks, where teams of scientists from disparate fields study the Big Questions.” So you can imagine I feel considerable affinity with them. They do truly cutting-edge research that I have been exploring for several years, and I hope to do more.

Complexity economics doesn’t pretend to deliver the kinds of answers that DSGE models do, and

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that's a good thing. The field recognizes its own limitations. Ironically, I think that humility is exactly what will lead to deeper understanding when central bankers and political policymakers finally learn to better consider the impacts of their decisions on the populations they supposedly serve.

Everything Old (in Economics) Is New Again

And while complexity mathematics and information theory may be relatively new, the general concepts contained in them were well known to previous generations of economists dating back to Adam Smith. Matt Ridley, who you met above, is one of my favorite economics writers. He authored the powerhouse books [*The Rational Optimist: How Prosperity Evolves*](#) and [*The Evolution of Everything*](#).

I have literally scores of pages underlined in *The Evolution of Everything* and am especially enamored of Ridley's chapter on the evolution of economics. Let me close with this selection of quotes from that chapter (emphasis mine):

This decentralised emergence of order and complexity is the essence of the evolutionary idea that Adam Smith crystallised in 1776. In his famous metaphor, Smith made the guiding hand invisible: each person 'intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention'.

Yet when Smith wrote his *Wealth of Nations*, there was little good evidence for his central idea that free exchange of goods and services would produce general prosperity. Up until the late eighteenth century much wealth creation had been by plunder in one form or another, and there was nothing remotely resembling a free-market government in power anywhere in the world.

As Deirdre McCloskey puts it, in the great enrichment of the past two hundred years average income in Britain went from about \$3 a day to about \$100 a day in real terms. That simply cannot be achieved by capital accumulation, which is why she (and I) refuse to use the misleading, Marxist word 'capitalism' for the free market. They are fundamentally different things.

Adam Smith is no paragon. He got plenty wrong, including his clumsy labour theory of value, and he missed David Ricardo's insight about comparative advantage, which explains why even a country (or person) that is worse than its trading partner at making everything will still be asked to supply something, the thing it or he is least bad at making. But the core insight that he had, that most of what we see in society is (in Adam Ferguson's words) the result of human action but not of human design, remains true to this day and underappreciated. This is true of language, of morality and of the economy. The Smithian economy is a process of exchange and specialisation among ordinary people. It is an

emergent phenomenon....

The really big thing that both Smith and Ricardo – and Robert Malthus and John Stuart Mill and all the other British political economists of the time – missed, however, was that they were living through the Industrial Revolution. They had no conception that they stood ‘at the threshold of the most spectacular economic developments ever witnessed’, as Joseph Schumpeter put it a century later: ‘Vast possibilities matured into realities before their very eyes. Nevertheless, they saw nothing but cramped economies struggling with ever-decreasing success for their daily bread.’

This was because their world view was dominated by the idea of diminishing returns. Ricardo, for example, watching local farmers struggle with bad harvests in the 1810s, agreed with his friend Malthus that corn yields must stagnate, because the best land was already in cultivation and every marginal acre brought under the plough would be worse than the one before. So Smith’s division of labour, and Ricardo’s comparative advantage, could improve the lot of people only up to a point. These were just a more efficient way of squeezing prosperity out of a limited system.

Even after living standards began to rocket upwards in Britain from the 1830s, Mill saw it as a flash in the pan. Diminishing returns would soon set in. In the 1930s and 1940s, John Maynard Keynes and Alvin Hansen saw the Great Depression as evidence that some limit of human prosperity had been reached. Demand for cars and electricity was satiated and returns on capital were falling, so the world faced a future of chronic unemployment, once the sugar rush of war spending faded.

The end of the Second World War would bring stagnation and misery. Again in the 1970s, and in the 2010s, there was widespread talk of sharing out the existing wealth of society rather than hoping living standards could go higher. Stagnationism has its fans in every generation.

Yet repeatedly the opposite happened. Far from diminishing, returns kept increasing thanks to mechanisation and the application of cheap energy. The productivity of a worker, rather than reaching a plateau, just kept on rising. The more steel was produced, the cheaper it got. The cheaper mobile phones grew, the more we used them. As Britain and then the world grew more populous, the more mouths there were to feed, the fewer people starved: famine is now largely unknown in a world of seven billion people, whereas it was a regular guest when there were two billion.

Even Ricardo’s wheat yields, from British fields that had been ploughed for millennia, began to accelerate upwards in the second half of the twentieth century thanks to fertilisers, pesticides and plant breeding. By the early twenty-first century, industrialisation had spread high living standards to almost every corner of the globe, in direct contradiction to the pessimistic fears of many that they would forever remain a Western privilege. China, a country mired in misery for centuries, and plunged into horror for decades, sprang to life

and saw its billion people create the world's largest market.

Even though contemporary economists pay lip service to the marvels of technological change, I think that, like the classical economists mentioned above who missed the fact that they were tumbling into the Industrial Revolution, current economists vastly underestimate the amount and variety of change that is going to occur in the next 20 years. That is the process I am writing about in my next book, *The Age of Transformation*. But it won't be all sweetness and light. Creative destruction is going to happen very rapidly and forcefully, and the adjustments are going to be painful for many individuals and many countries.

Conservatives and free-market economists are going to have to completely rethink their concepts of what government should be and how society should be structured. It is not clear that we will be up to the task. That said, the next 20 years will be far and away the most exciting period of human history. You won't want to miss it.

Florida, Dallas, and the Caymans

Briefly, as the letter is already long, I'll be speaking at a one-afternoon conference hosted by S&P Dow Jones at the Ritz-Carlton here in Dallas on February 1. I strongly encourage you to [register for the free afternoon](#).

In conjunction with S&P Dow Jones Indices Forum that afternoon, if you are an RIA, I would like to invite you to a private luncheon immediately before the forum, where we will discuss a separate topic: "*What Our New Administration May Mean for the Investment Landscape*." If you would like to be my guest at the luncheon, simply respond to business@mauldinsolutions.com and confirm you are registered, and we will make sure you get the information you need. Space is quite limited, so do email us back to secure your reservation.

I will then be at the [Orlando Money Show](#) February 8–11 at the Omni in Orlando. Registration is free. I am also scheduled to speak at a large alternative investment conference called [CAIS](#) in the Cayman Islands, February 14 to 18.

I am paying particular attention to and am much concerned, even distressed, by the seeming endorsement of tariffs (disguised by all sorts of other names) that is seemingly a part of the Republican agenda. If I don't see some substantial change and direction by Tuesday, then next week's letter is going to be a full-throated evisceration of this protectionist tendency. This mercantilist impulse is precisely the wrong prescription for jobs and will negate the positive effects of tax cuts and deregulation. I can think of nothing that would gut the economy more surely than protectionism, not to mention destroy the Republican and conservative brand. Think Herbert Hoover. I have been writing about the dangers of protectionism for 15 years as my number one concern for the future, and for it to potentially happen on a theoretically conservative watch is truly distressing.

That said, it is time to hit the send button. Let me wish you a great week; in spite of some of the

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above, I remain the most optimistic person in the room. The future is going to turn out just fine.

Your almost finished with the agenda for SIC2017 analyst,



John Mauldin

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