



Nonlinear Thinking in a Linear Market

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“The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom,” wrote science fiction writer Isaac Asimov—a thought that rings true today as policymakers struggle to catch up with what’s occurring in the world.

In respect to both the pandemic and its economic and market impact, we are dealing with a situation that is nonlinear. The coronavirus pandemic has been growing at a tremendous pace, and the resulting movement of economic realities is mostly without precedent.

It is difficult for humans, who tend to be linear thinking, to adapt. But if we can think in a nonlinear way, I believe we can find investment opportunities.

A Nonlinear World

The classic example of linear versus nonlinear thinking is asking if you’d prefer \$1 million today or a penny now that doubled in value every day for a month. The correct choice (if you like wealth) is the penny because you would end with more than \$5 million.

The virus is also nonlinear. Thinking in a linear manner, we would have expected the same number of new virus cases each day. But that is not how the virus works; it's exponential. Ten new cases are added one day, then 20 the next, then 40 the next, then 80, then 160, and so on.

It is very difficult to grasp, and we do not have many examples to guide us. We have to look at what is endogenous to this situation to really understand it, and that is very difficult. But it guides our thinking.

Consider jobless claims. There were 6.6 million claims for unemployment insurance in the week ending March 28, and more than 3 million the week before. Fast forward to mid-April, and claims have surpassed 22 million over the past month.

We have not seen anything like this in the history of the data. We are talking about more than 10% of the U.S. workforce being unemployed—all within a few weeks. This is a once-in-a-quadrillion-year type of development in terms of standard deviation. It is challenging to analyze or even comprehend the numbers.

At the same time, we have seen a very large fall in purchasing managers indices (PMIs) across the world. When this data is off the charts relative to their history, it is hard for the market to interpret them and use them as guides for growth implications.

Looking at this data, we can see that as a society we may suffer more as a result of quarantine than we would by getting the virus. Closing the economy creates externalities.

On the other hand, fiscal responses by governments around the world are linear. They can be better quantified, at least as a fraction of what gross domestic product (GDP) was a few months ago.

A Linear Response

Governments roll out policies as quickly as they can manage—but sometimes, even before these policies can be implemented, they start to look inadequate because they are linear responses to nonlinear problems. So then the government needs a new linear response.

That leads to more erratic public policies. It's a little bit like flying an airplane and oversteering it. Each time the plane does one thing, you oversteer it, and the oscillations get bigger and bigger and bigger.

We saw an example recently when eurozone leaders gathered virtually to organize their response to the economic fallout of COVID-19. One idea proposed was the issuance of “corona bonds”—joint or mutualized debt—issued by the European Investment Bank and taken collectively by all member states of the European Union.

These corona bonds would have a lower cost to countries that are most affected by the pandemic and have experienced a rise in their borrowing costs (such as Italy and Spain), and a higher cost to countries that are least affected by the pandemic, such as Germany and the Netherlands.

But eurozone leaders cannot sign off on that idea at this stage. Not surprisingly, Italy and Spain are in favor, and Germany and the Netherlands are opposed. It's the same problem that has ruled out any mutualization of sovereign debt since the inception of the European Monetary Union.

It also reveals what happens when a linear negotiation process meets a nonlinear situation—in this case, a crisis for which the only global response, other than monetary stimulus, has been to switch off the global economy.

Where Does It End?

The main question on everyone's mind, though, is, "Where does all of this end?"

Conventional wisdom seems to be that within about a month or two, many countries will start lifting the curtailment on activity. Some are attempting small relaxations already, although others are only just implementing states of emergency and lockdowns now, so nothing is highly synchronized about this.

Thus, looking at conventional wisdom, we can say that the looming recession is more likely to lengthen than shorten from where it is now.

But conventional wisdom is linear, and the underlying influences that are feeding into conventional wisdom expectations are not linear. We are seeing an increased state presence, wildly disrupted resource allocation, and other changes in behavior about which we don't know a great deal just yet. And they could endure. How do we add them to our analysis?

For example, how do we extricate ourselves from the downstream effects of policymakers' response to this crisis?

Populations are declining in much of the developed world. How do we unwind the fiscal largesse that we now have in place when there are fewer and fewer workers to pay into the system?

Meanwhile, we have used virtually every public policy tool in the known toolkit to respond to this crisis. Having said that, there may even be more tools yet to be deployed. How do we eventually unwind those policies so we can continue to allow market prices rather than central governments to allocate resources?

So, I think what we see now is small compared with the ultimate reckoning that we will face as a society. That doesn't mean everything is going to collapse tomorrow; it means that over the long term things could be much more sluggish than we otherwise would have expected. We will likely experience an economic and market decline, or a very long period of stagnation—think of the Japan syndrome.

This is indeed a global financial crisis.

Investment Implications

But all is not doom and gloom. Nonlinear thinking can uncover opportunities that the markets' linear thinking may miss vis-à-vis the anticipation of not just virus case counts but the anticipation of public policy decisions.

We are near our lowest historical risk levels in our portfolios, but at the same time, our opportunity set is large.

When there are massive mispricings, there are opportunities, and we anticipate that the amount of risk we take will ebb and flow based on behavioral considerations in the marketplace.

And that brings us back to Asimov: “The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom.” Truth is truth, but perception is reality, and right now we are navigating perception, trying to determine when it gives us the most attractive point to step in and take more risk.

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