Global Macro Risk Dynamics in the 2020s and Beyond

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As I learned during the four years I spent as part of the [Good Judgment Project](), forecasting the behavior of complex adaptive systems like the global political economy and financial markets is actually not, as it often seems, an exercise in futility.

To be sure, it is extremely challenging, with the accuracy of even the best performers not much better than chance, particularly as the breadth of forecasting questions widens and the time horizon lengthens. Yet even a slight advantage in forecast accuracy can produce substantial benefits (e.g., see, "*How Much Can Firms Know?"* By Ormerod and Roswell, or *"The Fundamental Law of Active Management"*, by Grinold and Kahn).

It is with these lessons in mind that *The Index Investor* has prepared this forecast of critical global macro risk dynamics in the decade that lies ahead. Our goal is not to give readers yet another point forecast for one or more outcomes in either 2020 or later in the decade. There are plenty of those already.

Rather, our goal is to describe a methodology for thinking about the critical drivers and dynamics that will produce those outcomes, and thus a means for gaining a forecasting edge by being better able to identify and apply the high value information signals that are too often missed in the noise of the daily data overload we all confront.

Specifically, as we have often described in *The Index Investor*, our approach to global macro forecasting assumes that the changes we eventually observe in asset class valuations and returns are the end result of a roughly chronological process. At the earliest stage there are changes in technology and in the area of energy and the environment. These have a significant impact on changes in the economy and national security, which in turn affect change in the social and political spheres. In taking this approach, our goal is to better capture the roles of time and speed, and to make second and third order consequences more visible.

Index Investor Macro Forecasting Framework
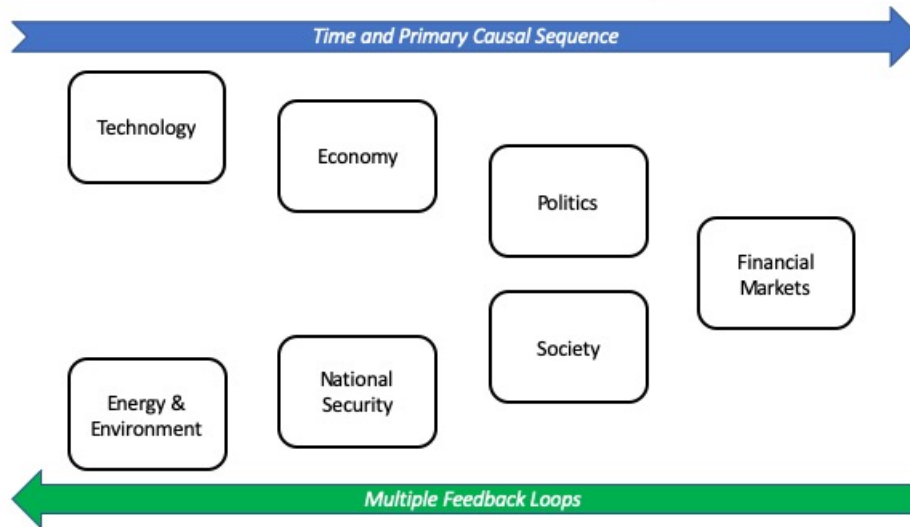
This chronological approach also contains multiple feedback loops, which drive the emergence of non-linearities and discontinuities that are usually hard to predict. However, by making explicit both causal drivers and time, it becomes easier to understand some, if certainly not all of the ways they could occur.

Before looking forward to the 2020s, let's begin our forecasting exercise by looking back at the 2010s, specifically at key trends in each issue area that are almost certain to in some way affect outcomes in the decade ahead. As such exercises can easily generate long lists that become cognitively overwhelming, I'll limit myself to just one driving trend in each area that I consider to have been the most important:

- **Technology**: In the 2010s, we became a hyperconnected society, due to the rise of mobile, cloud, and social media technologies. Among many other effects, this made social learning and social copying much easier, which in turn made the population of public and investor opinions both much less diverse (particularly when uncertainty is high) and subject to much faster change than in the past.

- **Environment**: While people may argue about the underlying causes, the data show the global ecosystem was becoming warmer, at an accelerating rate.
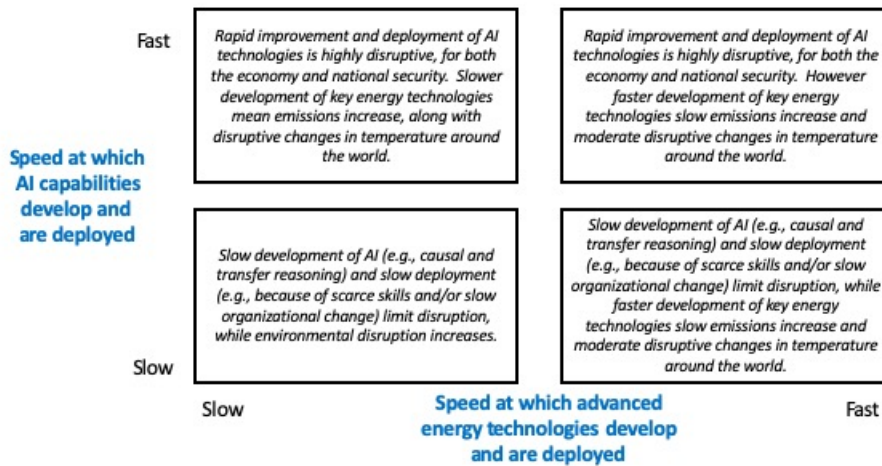
- **Economy**: As evidenced by falling risk-free interest rates, aggregate demand remained weak in the aftermath of 2008's global financial crisis, and continued to substantially depend on strong monetary policy stimulus and rising levels of debt.

- **National Security**: Cyber (and its disruptive progeny, speed and autonomy) emerged as a critical domain for strategy, as well as offensive and defensive operations and tactics.

- **Society**: In many nations, populations became older on average, as both birth and death rates decreased. Given historically low rates of productivity improvement, this put downward pressure on demand growth and upward pressure on government costs.

- **Politics**: In many countries, centrist parties weakened as growing frustration (particularly among the middle class) with the inability (or perceived unwillingness) of government to address problems that have significantly worsened their quality of life drove more voters to more populist leaders and political parties at different ideological extremes.

In the 2020s, these trends will interact with the outcomes of critical uncertainties in different issue areas. These complex interactions will produce the emergent outcomes we will observe in financial markets.

To make this forecasting problem tractable, our process begins by focusing on the interaction of two critical uncertainties in each issue area, as shown in the following six charts:

Technology: The two uncertainties driving these scenarios are: (1) The speed at which artificial intelligence capabilities (possibly enhanced by quantum computing technologies) develop and are deployed (e.g., their deployment will increase the speed at which many activities and processes are carried out, and may also, depending on the rate at which education systems improve, require fewer human workers), and (2) The speed at which advanced energy technologies (e.g., batteries and other energy storage, grid control, solar, and carbon capture) are developed and reach a level of cost effectiveness that allows them to be effectively deployed at scale without sharply increasing consumer energy prices.

Technology Scenarios

	Fast		
Speed at which AI capabilities develop and are deployed	*Rapid improvement and deployment of AI technologies is highly disruptive, for both the economy and national security. Slower development of key energy technologies mean emissions increase, along with disruptive changes in temperature around the world.*		*Rapid improvement and deployment of AI technologies is highly disruptive, for both the economy and national security. However faster development of key energy technologies slow emissions increase and moderate disruptive changes in temperature around the world.*
	Slow development of AI (e.g., causal and transfer reasoning) and slow deployment (e.g., because of scarce skills and/or slow organizational change) limit disruption, while environmental disruption increases.		*Slow development of AI (e.g., causal and transfer reasoning) and slow deployment (e.g., because of scarce skills and/or slow organizational change) limit disruption, while faster development of key energy technologies slow emissions increase and moderate disruptive changes in temperature around the world.*
	Slow		

Slow   **Speed at which advanced energy technologies develop and are deployed**   Fast

Environment: The two uncertainties driving these scenarios are: (1) Whether food supplies are significantly affected by climate change, and (2) Whether infectious disease prevalence and severity are significantly affected by climate change.

Environmental Scenarios

	Yes		
Are food supplies significantly affected by climate change?	*Faster than expected changes in global temperatures significantly disrupts traditional food supply, including production, supply chains, and/or relative consumer pricing, causing increased government spending to mitigate consequences. However, there is no significant increase in global disease prevalence and severity.*		*Faster than expected changes in global temperatures significantly disrupts traditional food supply, including production, supply chains, and/or relative consumer pricing. Changes in climate and/or food supply cause significant increase in global disease prevalence and severity. Substantial increase in govt spending to mitigate consequences.*
	Benign scenarios, with no negative impact on food supply or disease. No increase in government spending to mitigate consequences, leaving more budget room for spending (e.g., on R&D) to support faster emissions reduction.		*No negative impact on food supplies. However, increase in global disease prevalence and severity, which forces increased government spending and other actions in this area (e.g., travel bans which depress economic demand).*
	No		

No   **Are disease prevalence and severity significantly affected by climate change?**   Yes
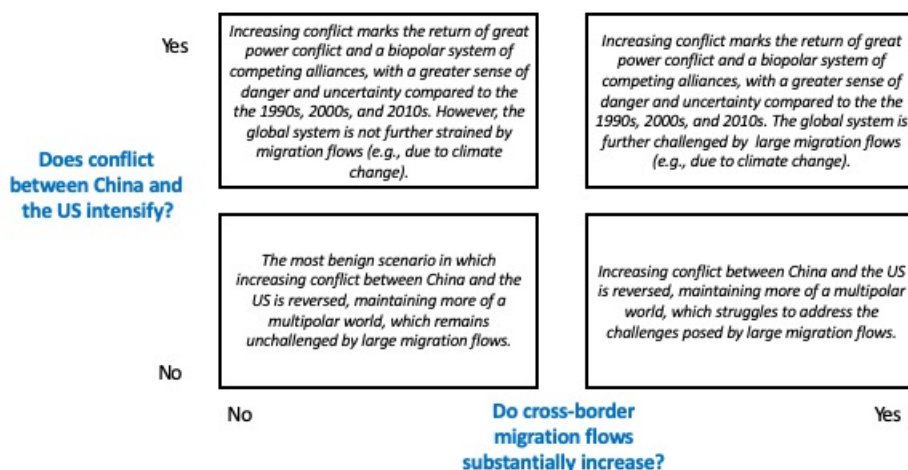
Economy: The two uncertainties driving these scenarios are: (1) Whether and to what extent average productivity increases, and (2) How the global debt problem (including governments' off balance sheet liabilities for future pension and healthcare costs) is resolved.

Economic Scenarios

	Cooperative Reduction	Austerity and Conflict
No	Productivity does not significantly improve, which holds down demand growth and worsens economic burden of excessive debt, which is reduced through cooperative processes (similar to widespread debt/equity conversion in Latin America in 1980s).	Demand growth is very weak and heavily dependent on government spending, as productivity does not significantly improve, and debt burden remains heavy due to prolonged conflicts triggered by defaults.
Yes	Most benign scenario, in which the combination of significant productivity improvement and cooperative debt reduction leads to higher aggregate demand growth with less need for government spending to drive it.	Significant improvement in productivity growth leads to less reliance on government spending to sustain aggregate demand. However, potential demand growth is held back by conflict-driven approach to reducing excessive debt levels.

Does productivity substantially increase? (vertical axis)

How is the global debt problem resolved? (horizontal axis)

National Security: The two uncertainties driving these scenarios are: (2) Whether the China-US conflict intensifies, and (2) Whether cross-border migration flows substantially increase.
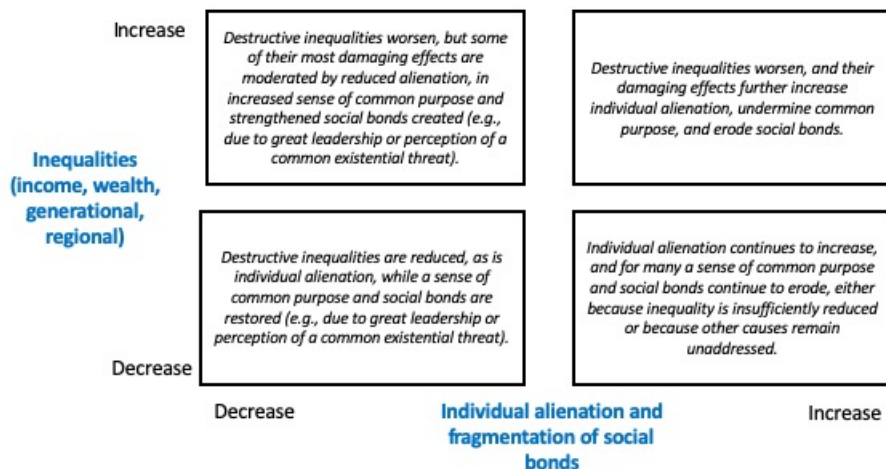
National Security Scenarios

	No	Yes
Yes	Increasing conflict marks the return of great power conflict and a biopolar system of competing alliances, with a greater sense of danger and uncertainty compared to the the 1990s, 2000s, and 2010s. However, the global system is not further strained by migration flows (e.g., due to climate change).	Increasing conflict marks the return of great power conflict and a biopolar system of competing alliances, with a greater sense of danger and uncertainty compared to the the 1990s, 2000s, and 2010s. The global system is further challenged by large migration flows (e.g., due to climate change).
No	The most benign scenario in which increasing conflict between China and the US is reversed, maintaining more of a multipolar world, which remains unchallenged by large migration flows.	Increasing conflict between China and the US is reversed, maintaining more of a multipolar world, which struggles to address the challenges posed by large migration flows.

Does conflict between China and the US intensify? (vertical axis)

Do cross-border migration flows substantially increase? (horizontal axis)

Society: The two uncertainties driving these scenarios are: (1) Whether income, wealth, generational, and regional inequalities
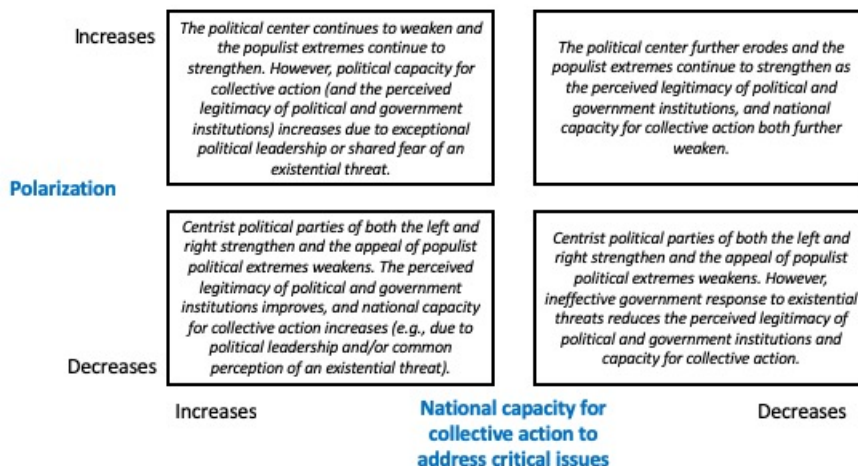
decrease or increase, and (2) Whether the level of individual alienation fragmentation of social bonds and cohesion decreases or increases.

Social Scenarios

	Decrease	Increase
Increase	Destructive inequalities worsen, but some of their most damaging effects are moderated by reduced alienation, in increased sense of common purpose and strengthened social bonds created (e.g., due to great leadership or perception of a common existential threat).	Destructive inequalities worsen, and their damaging effects further increase individual alienation, undermine common purpose, and erode social bonds.
Decrease	Destructive inequalities are reduced, as is individual alienation, while a sense of common purpose and social bonds are restored (e.g., due to great leadership or perception of a common existential threat).	Individual alienation continues to increase, and for many a sense of common purpose and social bonds continue to erode, either because inequality is insufficiently reduced or because other causes remain unaddressed.

Vertical axis: **Inequalities (income, wealth, generational, regional)**
Horizontal axis: **Individual alienation and fragmentation of social bonds**

Politics: The two uncertainties driving these scenarios are (1) Whether political polarization increases or decreases, and (2) Whether national capacity for taking collective action to address critical issues increases or decreases.

Political Scenarios

	Increases	Decreases
Increases	The political center continues to weaken and the populist extremes continue to strengthen. However, political capacity for collective action (and the perceived legitimacy of political and government institutions) increases due to exceptional political leadership or shared fear of an existential threat.	The political center further erodes and the populist extremes continue to strengthen as the perceived legitimacy of political and government institutions, and national capacity for collective action both further weaken.
Decreases	Centrist political parties of both the left and right strengthen and the appeal of populist political extremes weakens. The perceived legitimacy of political and government institutions improves, and national capacity for collective action increases (e.g., due to political leadership and/or common perception of an existential threat).	Centrist political parties of both the left and right strengthen and the appeal of populist political extremes weakens. However, ineffective government response to existential threats reduces the perceived legitimacy of political and government institutions and capacity for collective action.

Vertical axis: **Polarization**
Horizontal axis: **National capacity for collective action to address critical issues**

As you can see, these scenarios are consistently presented, so that the most benign outcome is in the lower left quadrant, and the most challenging is in the upper right quadrant.

Even after using this approach to reduce the dimensionality and complexity of our global macro forecasting challenge, we are still left with a seemingly unwieldy 4,096 (4^6) scenarios, if we assume all combinations could occur. However, that is very likely not the case, because developments early in our chronological causal chain tend to drive or constrain developments later on.

For this reason, we use these scenarios as tools for reasoning both forward and backward in time to better understand the dynamics that could produce different financial market outcomes, and to identify potential sources of future non-linearities and discontinuities.

This method also makes it much easier to gain an edge by developing early warning indicators and more efficiently sifting through the daily data deluge to identify high value information that is much more likely to be observed (or not observed) if a particular outcome for a critical uncertainty is developing.

Both individually and in combination, these scenarios make it painfully clear that very substantial challenges lie ahead in the 2020s, which will create far higher levels of individual and collective uncertainty than a majority of people alive today have ever experienced.

Yet in the course of history, we have been here many times before.

Beneath the drivers and uncertainties in different issue areas, our reading of history and complex adaptive systems theory suggests that there are even deeper dynamics at work, which are driven by interacting degrees of system order/disorder and social cooperation/conflict.

The chart below sums up our understanding of these dynamics:

The Macro System's Deep Dynamics
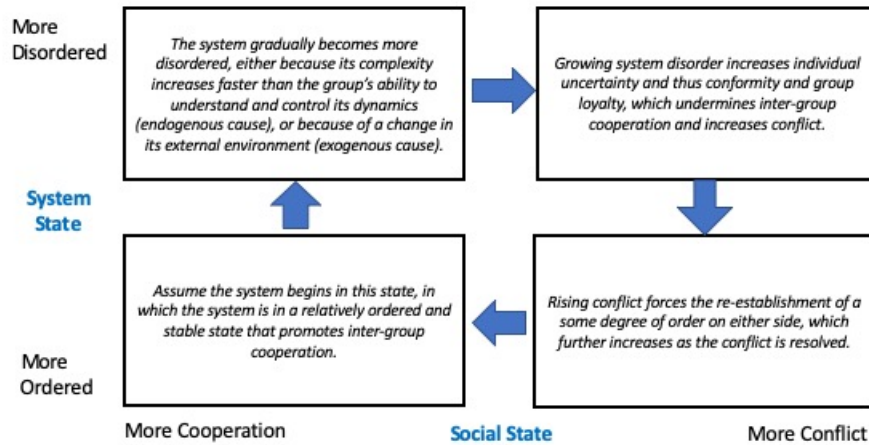
It is often observed that looking chronological periods of ten years are a poor way to capture the essence of different historical epochs. Yet that is just what we usually do, which leads to insights that are roughly correct but not as accurate as they could be.

For example, it is often said that the 60s really began with John F. Kennedy's assassination in November 1963, and ended with Richard Nixon's resignation in August 1974 (or when the US suspended the exchange of US dollars for gold at a fixed exchange rate in August 1971 – take your pick). To cite a second example, the period from 1910 to 1919 clearly included two very different historical periods, one leading up to August 1914, and the other by World War 1 and its aftermath.

The limitation of decadal analyses is equally when applying my macro system's deep dynamic model. However, even with that caveat you can still see how the growing disorder and conflict of the 1930s gave way to the more ordered by still conflict ridden 1940s (which produced the collapse of Germany and Japan, and of democracy in Eastern Europe and China), which in turn evolved into the relatively more ordered and cooperative 1950s.

These then gave way to the increasingly disordered, but still cooperative 1960s, and then the disordered and relatively conflict ridden 1970s. The system became more ordered again as conflict intensified in 1980s, which ended with the fall of the Berlin Wall and dissolution of the Soviet Union. This was followed by the more ordered and cooperative 1990s.

Yet once again disorder increased during the 2000s, and in the just ended 2010s it grew worse and cooperation gave way to much higher levels of domestic and international conflict.

Assuming my model of macro dynamics has some predictive validity, in the 2020s I expect that conflict will increase in the 2020s. However, that should also drive the system into a more ordered state (e.g., due to heightened fear of new existential threats, such as an aggressive China, or Chinese-Russian alliance, and/or the worsening effects of continued global warming).

If the dynamic cycle continues function, then, roughly speaking, in the 2030s the global macro system will once again be characterized by relatively high levels of order and cooperation.

However, happy outcomes in history are far from ordained. The challenges our leaders and institutions will face in the 2020s will very likely test them to their limits, and possibly beyond them.

We are moving into a very dangerous decade for investors, for whom prudence should be the order of the day, with a primary focus on avoiding deep losses rather than realizing large gains.

Years ago I took a class taught by Henry Kissinger right after he left government. I still have a handout he had us read, of an interview he gave to the New York Times in 1974. It says in part,

> *"I think of myself as a historian more than a statesman. As a historian, you have to be conscious of the fact that every civilization that has ever existed has ultimately collapsed. History is a tale of efforts that failed, of aspirations that weren't realized, of wishes that were fulfilled and then turned out to be different from what one expected. So as a historian, one has to live with a sense of inevitable tragedy. [But] as a statesman one has to act on the assumption that problems must be solved."*

Since 1997, the mission of *The Index Investor* has been to help investors, corporate, and government leaders better anticipate, accurately assess, and adapt in time to emerging macro threats. We gave our subscribers timely warning of both the 2001 and 2008 financial crises.

Each month we provide narrative and quantitative forecasts for different macro regimes at 12 and 36-month time horizons, as well as their implications for broad asset class returns and portfolio allocation.

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The first are "indicators" that cause us to either increase or decrease our uncertainty about the values of different parameters in our model of the complex macro system. The second are "surprises" that increase our uncertainty about the structure of that model. Evidence is categorized by month, and divided into separate sections covering developments in technology, energy and the environment, the economy, national security, society, politics, and financial markets.

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Over the past 40 years, Tom Coyne has worked in global banking and consulting, and served as the CFO and CEO of public and private companies. He is a graduate of the Georgetown University School of Foreign Service and Harvard Business School.