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The Roubini Cascade

Are we heading for a Greater Depression?

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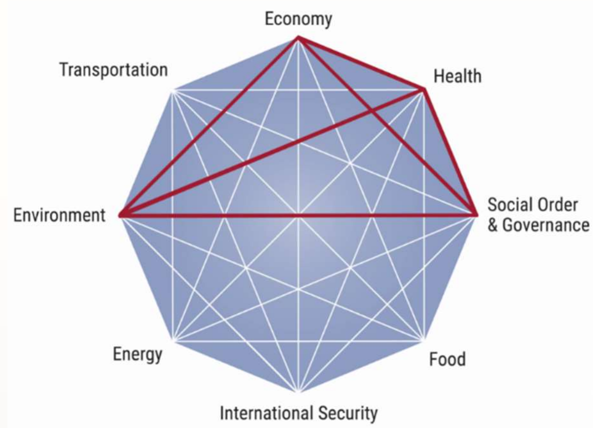

Summary

This Brief develops a system map of Nouriel Roubini's argument that the world is heading into a Greater Depression. It uses this visualization to highlight crucial features of his prediction.

Emerging trends

- In response to the COVID-19 pandemic and its economic fallout, governments are using unconventional economic policies—such as the monetized fiscal deficits recommended by Modern Monetary Theory—the ultimate consequences of which are uncertain.
- Nouriel Roubini argues that the global economy is heading towards depression in the next decade as negative demand shocks (low production and consumption) and negative supply shocks (higher prices stemming from deglobalization) generate stagflation.
- While many analysts hope for a quick economic recovery, a set of interrelated factors could make the coming decade even worse than the present COVID-19-induced economic slump.

Implications for action

- A full systems map of Roubini's argument reveals several positive (self-reinforcing) feedbacks that could propel the global economy into depression. Two such cycles are of particular note: Between (1) deglobalization, economic dislocations, and populist politics, and (2) unemployment and low consumption.
- Roubini suggests that once negative global supply shocks become acute, governments and central banks will have to reduce their fiscal deficits and switch from quantitative easing to quantitative tightening.
- A depression would create unfathomable hardship. But it could also create opportunities to redesign global economic institutions and their underlying doctrines to meet the worsening challenges of inequality, climate change, and pervasive economic insecurity.

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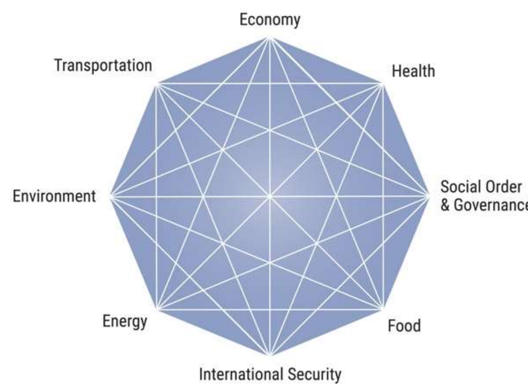
About the Cascade Institute

The Cascade Institute is a Canadian research center addressing the full range of humanity's converging environmental, economic, political, and technological crises. Using advanced methods for mapping and modeling complex global systems, Institute researchers identify *high-leverage intervention points* in cognitive, institutional, and technological systems that, if effectively exploited, could rapidly shift humanity's course towards fair and sustainable prosperity.

The Institute is located at Royal Roads University in British Columbia, a leader in training professionals to apply creative solutions to entrenched problems.

About the Inter-Systemic Cascades (ISC) Project

The Cascade Institute's *Inter-Systemic Cascades Project* maps causal routes through which the COVID-19 pandemic could sequentially destabilize associated national and global systems, causing cascades of change. This series of Briefs focuses on the pandemic's implications for the eight key systems highlighted around the adjacent octagon, and each Brief maps a possible causal route of destabilization among these systems. Cascades may be either "pernicious" (socially harmful) or "virtuous" (socially beneficial).



The analysis in this series starts from the assumption that societies are organized around cohesive sets of worldviews, institutions, and technologies (WITs), where:

- **Worldviews** are mental networks of concepts, beliefs, and values—often emotionally charged—that allow people to interpret things around them and plan their actions.
- **Institutions** are a community's rules governing social behaviour, including formal rules (constitutions, laws, and contracts), informal rules (customs and norms), and mechanisms of enforcement.
- **Technologies** are problem-solving tools that people create by harnessing phenomena of their physical and social environments.

Pandemic Shock: Brief #7

The Roubini Cascade: Are we heading for a Greater Depression?

Background: Temporary crisis or sustained economic collapse?

Even before the COVID-19 pandemic struck, the world had sunk into deep economic uncertainty. Just as the various shocks of the 1970s and 1980s upended post-war Keynesian economics and propelled the flip to monetarism,[1] so too did the 2007-2009 financial crisis shake the foundations of monetarism. The consequent "Great Recession" provided few hints as to what macroeconomic paradigm would follow, but it did reveal the economic conditions with which a new framework must now contend: low economic demand; high economic inequality; high savings and low investment by the wealthy; and interest rates stuck near zero, thus enfeebling the chief lever of monetary policy (*The Economist* 2020a). "A profound shift is now taking place in economics," *The Economist* (2020b) recently proclaimed, "of the sort that only happens once in a generation."

The coronavirus has worsened this uncertainty, while compelling leaders around the world to implement radically unconventional economic policies. Governments have borrowed and printed vast amounts of money to fund the massive fiscal stimulus at the core of their pandemic response. Canada, for example, is running a budgetary deficit of CAD$328.5 billion in the 2020-21 fiscal year—high above the CAD$36.5 billion deficit of 2019—including an estimated CAD$225.9 billion spent in response to COVID-19. Equal to 15 percent of Canada's gross domestic product (GDP), this figure represents the largest budgetary deficit (relative to GDP) incurred since reporting began in 1966 (PBO 2020). The International Monetary Fund (IMF 2020) estimates that global government debt will reach an unprecedented level equal to almost 100 percent of global GDP in 2020, up from 83 percent the year before.

But with both interest rates and inflation near zero, fiscal deficits that would previously have seemed catastrophic now appear to be sustainable, necessary, and even desirable. Whether they acknowledge it or not, governments are implementing core precepts of Modern Monetary Theory (see Box 1), which just years ago was derided as "radical" and "fringe" for its suggestion that governments can and should spend much more than they do, despite the resulting deficits (Pittis 2020a).

In the midst of an economic paradigm shift, and as governments gamble that unprecedented spending will see us through the pandemic without producing even greater economic catastrophe, renowned economist Nouriel Roubini has made a distressing prediction. Roubini first gained notoriety in 2006 when he proposed—to the bewilderment of many of his peers—that the US housing market was about to collapse (Levitz 2020). He was

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[1] Where Keynsian economics emphasizes government spending as the key tool for managing consumption and economic stability, monetarism concentrates instead on the role of money supply.

right, and a global financial crisis soon followed. Now, Roubini forecasts that the global economy will fall into a "Greater Depression"—a period even worse than the Great Depression of the 1930s—within the next decade. Whereas optimists project a V-shaped recovery from the coronavirus slump, and an emerging, more cautious consensus foresees a U-shaped recovery, Roubini predicts that, in the coming years, the graph of economic growth will take on an L-shape as the global economy makes a short-lived rally and falls into depression.[2]

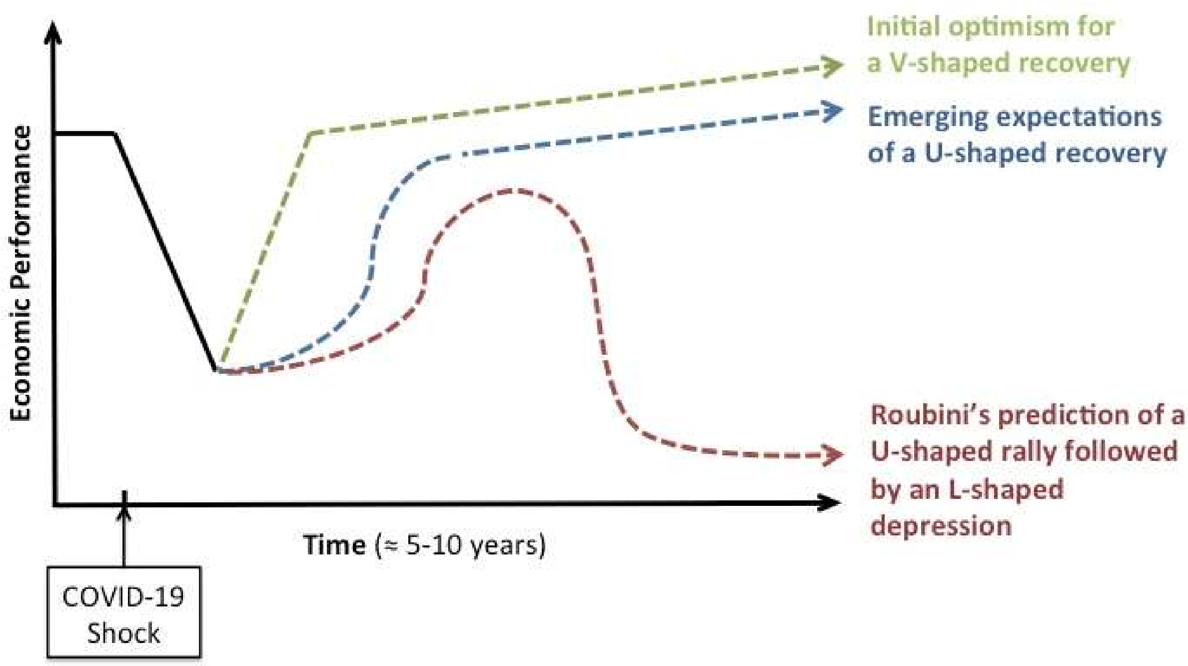

Figure 1: Forecasts of global economic recovery from the COVID-19 slump

Roubini's analysis deserves special attention, because he is a uniquely systemic thinker. Whereas other economic commentators focus narrowly on macro-economic factors (interest rates, unemployment, deficits, exchange rates, and the like), Roubini additionally considers factors such as geopolitical tensions, technological advances, political attitudes, demographic change, and environmental crises—as well as the interactions between these factors. Roubini also highlights causation across multiple scales of analysis, from the micro-scale of household finances upwards to industry trends, public policy, international relations, and ultimately the changing nature of globalization itself.

But tracing the relationships among such a range of factors is a daunting task. In this Brief, we therefore develop a systems map of Roubini's argument that will allow us to better assess the risks of a Greater Depression and to identify some of the feedbacks that might drive the global economy into this crisis. Follow-up Briefs will further

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[2] As another possibility, many fear a K-shaped recovery in which the wealthiest individuals and firms grow richer during the pandemic while the less-well off see their finances crumble. The K shape, in this sense, can combine with the U, V, or L shaped curves.

evaluate Roubini's causal claims, show how they differ from the analyses of other prominent economists, and test their sensitivity to shifts in key underlying factors and trends.

Box 1: What is Modern Monetary Theory?

Modern Monetary Theory (MMT) offers one explanation of *how money actually works* and the consequent implications for government spending. The theory applies exclusively to *monetary sovereign countries*—those countries in which the government is the monopoly issuer of a fiat currency, such as the United States, Canada, Japan, the United Kingdom, and Australia. The currency of these countries is not tied to any other currency or commodity (such as gold); when these governments take on debt, they do so in their own currency. That currency has value because the issuing government *decrees* that it has value (by "fiat"), and because people act accordingly, as if it has value. These conditions grant monetary sovereign governments significant control over their money supply and the value of their currency.

At the crux of MMT is the difference between *users* of money (such as individuals and businesses) and *issuers* of money (monetary sovereign governments). Users of money must either earn money or borrow money before they can spend it, and spending too much can readily cripple them with debt. Users of money must therefore balance their budgets just like households do. Monetary sovereign governments need not. As the issuers of currency, they simply order money into existence by either printing currency (cash and bonds) or by increasing the numbers in banks' digital accounts. These governments do not rely exclusively upon tax revenues or borrowing in order to spend. Taxation functions largely to create demand for the government's currency so that people have an incentive to carry out the work that the government wants done—by building infrastructure and providing public services, for example. People need currency to pay their taxes, and the government issues such currency in ways that achieve its goals.

Many implications of MMT defy common sense, but only because that "common sense" assumes that governments must budget like a household does. Monetary sovereign countries, for example, cannot go broke; they cannot run out of money because they can always issue more. The question "how will the government pay for it?" is irrelevant. Unlike households, governments do not need to come up with the money (through taxation and borrowing) before they spend it; they can simply issue the currency they spend. The balance of the government budget—whether in the form of deficit or surplus—is not the measure of economic health and stability, and repeated calls for fiscal belt-tightening are misguided impediments to better economic policy.

MMT, however, does not promise a free lunch. Governments cannot spend indefinitely without running into big problems. But the limit to government spending is *not* the size of its budgetary deficit, as many believe; rather the limits are the "real resources" of the economy and inflation. Real resources define an economy's productive capacity, and include its technology, the quantity and quality of its labor, capital, natural resources, and so on. Inflation decreases purchasing power of the currency, thus limiting what governments can achieve by issuing that currency. MMT proposes that governments should produce money at a rate that stimulates the full use of the country's productive capacity, but it warns that exceeding that level triggers harmful inflation.

The feasibility and desirability of government spending is instead a matter of what that spending achieves—the extent to which it creates full employment, equitably distributes wealth, and triggers inflation, for example. Historically, deficits have been *too small*. Limited government spending leaves unused capacity (conventionally understood using such concepts as the "natural" rate of unemployment) and thereby misses opportunities to improve the economy and peoples' well-being.

MMT comes up regularly in Roubini's webcasts. He refers to the deficit spending that MMT advocates as "helicopter drops of money," a term coined by Milton Friedman to castigate such proposals. Roubini argues that "quantitative easing" (QE)—one of the major policy responses to the Great Recession and a term used frequently today—is essentially the same thing as MMT. Both involve "monetized budget deficits," wherein central banks finance government budget deficits by buying government bonds—basically by printing money that is channeled into the economy through public spending, transfers, tax breaks, and/or secondary bond markets. By financing the deficit through monetary policy rather than bonds issued in private markets, the government avoids raising the interest rate. The only significant difference between QE and MMT is that—rhetorically, at least—the deficits of the former are temporary while the deficits of the latter are more permanent. Presently, MMT is the de facto (though not official) policy of advanced economies in their response to the economic fallout of the coronavirus pandemic (see Roubini's 6 October 2020 webcast, 1h 1m).

The economic harms of COVID-19 will be much worse for poorer countries, in part because they do not have monetary sovereignty. Their debts are denominated in foreign currencies. The recommendations of MMT are thus unavailable to poorer governments, which also lack the fiscal space to mount the economic stimulus at the core of rich countries' response to the pandemic. So, these countries may face a "lost generation" due to low growth and rising poverty. International inequality (economic divergence between rich and poor countries) will almost certainly increase as a result.

This summary is based primarily on: Kelton 2020.

Analysis: Roubini's argument

Roubini argues that ten trends—what he refers to as the ten "deadly Ds"—that emerged after the global financial crisis of 2007-9 are now pushing the world towards a Greater Depression, sometime in the next decade.[3] "These 10 risks," he contends, "now threaten to fuel a perfect storm that sweeps the entire global economy into a decade of despair" (Roubini 2020a). The deadly Ds would trigger this depression even in the absence of the COVID-19 pandemic, but the pandemic has intensified the underlying problems and accelerated the crisis. And while Roubini argues that all ten trends are advancing today, not all are necessary for the global economy to fall into a Greater Depression. In this sense, a global depression is *over-determined*.

[3] Based on Roubini's 28 April 2020 webcast, at 17m 37s. See also Roubini 2020a for a stripped-down summary of these ten trends.

The ten deadly Ds are:

1) **Debts, deficits, and defaults** from overextended public and private finances, including monetized fiscal deficits.
2) **Demographic time bombs**, particularly aging populations around the world that increase the financial demands of healthcare and social welfare spending.
3) **Deflationary risks** stemming from low production, slack in the labor market, and collapsed commodity prices.
4) **Debasement of currency** over the medium term through monetized fiscal deficits amidst negative supply shocks.
5) **Digital disruption*,*** as production processes increase the use of artificial intelligence and automation to replace labor, worsening unemployment and inequality.
6) **Deglobalization,** as countries reduce global interconnectivity by reshoring production and implementing protectionist measures, creating Balkanized supply chains and a fragmented global economy.
7) **Democracy backlash** in which rising unemployment, inequality, xenophobia, and anti-globalization sentiment encourage populist, nationalist, and authoritarian governments.
8) **Duopolistic strategic rivalry** (new cold wars) between, on the one hand, the United States and its allies, and on the other, a tacit alliance of revisionist powers (China, Russia, Iran, and North Korea).
9) **Digital rivalry**, a key part of strategic rivalry, as technology sectors become national security issues, further decoupling trade, investment, technological innovation, and data between rival economies, while creating new possibilities for cyber-attacks.
10) **Deadly human-made disasters**, such as climate change and future pandemics, that create social strife, failed states, civil wars, mass migration, and international tensions.

Roubini contends that these ten trends will produce *both* negative demand shocks *and* negative supply shocks in the next decade. These two types of shock have different consequences, particularly for prices, inflation, and monetized deficit spending (see Table 1). The global financial crisis of 2007-9 was a negative demand shock, while the oil shock-induced recession of the 1970s was a negative supply shock. Each of these previous crises involved *only one or the other* type of shock. Present circumstances, Roubini argues, feature both, and they are both worsening. The result will be a Greater Depression featuring—like the recession of the 1970s—*stagflation*—that is, stagnant economic activity accompanied by high inflation.

	Negative Demand Shock	Negative Supply Shock
Economic output	↓ Declining	↓ Declining
Prices	↓ Declining; risk of deflation	↑ Increasing; risk of inflation
Example	Global financial crisis of 2007-9	1970s oil shocks and recession
Consequences of monetized deficits	Quicker recovery	Stagflation

Table 1: Negative demand shocks versus negative supply shocks

In the remainder of this Analysis section, we build a comprehensive systems map of Roubini's argument that the world will enter a Greater Depression in coming years. We proceed in three stages. First, we present a highly abbreviated version of the argument as a rough guide (Figure 2). Second, we separately detail the negative demand shock part of the argument (Figure 3) and the negative supply shock part of the argument (Figure 4). Finally, we integrate the negative demand shock and negative supply shock diagrams into a single, complete systems map (Figure 5).

We have attempted to represent Roubini's thinking as carefully and accurately as we can, drawing upon his various webcasts and articles. The process of systems mapping, however, often requires some degree of interpretation and editorial discretion. We believe the following analysis to be a fair and detailed translation of Roubini's argument, though we remain open to corrections and revisions moving forward.

The argument, abbreviated

The stripped-down version of the argument presented in Figure 2 divides the ten deadly Ds (DDs) into those contributing predominantly to a negative demand shock and those most implicated in a negative supply shock. (As revealed by the diagrams further below, the separation of the trends into these two categories is somewhat arbitrary.)

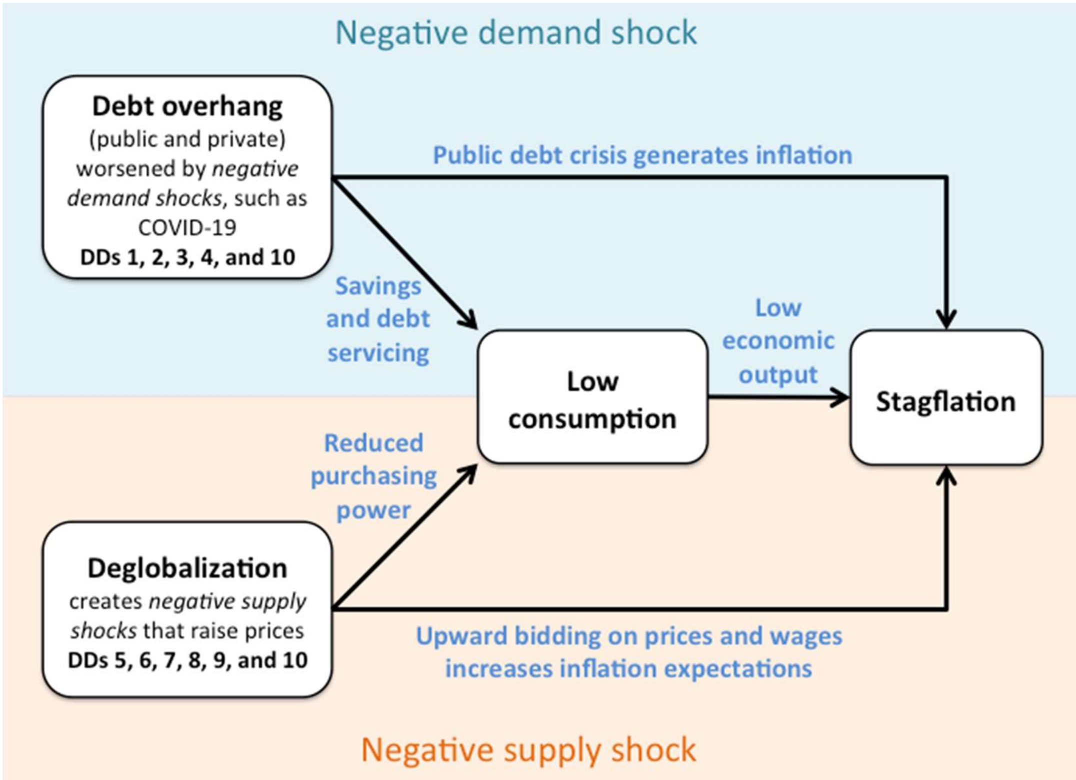

Figure 2: The argument, abbreviated

Ultimately, a precarious "debt overhang" results from a negative demand shock that is itself a consequence of:

- growing debts, deficits, and defaults (DD1);
- increased spending on healthcare stemming from demographic time bombs (DD2);
- deflation risks that prompt fiscal stimulus (DD3);
- currency debasement due to continued monetization of fiscal deficits (DD4); and
- debts and deficits incurred by human-made disasters (DD10).

As governments rack up public debt through monetized fiscal deficits, they increase expectations of inflation. Should the interest on such borrowing increase, governments will be tempted to print money to service these debts. Inflation will result.[4] As households and firms devote more of their income to debt servicing and precautionary savings, they lower their consumption and induce economic stagnation. By increasing public and

[4] Roubini suggests that there is a direct relationship between monetized fiscal deficits and inflation. He proposes that once monetized fiscal deficits reach 10 percent of GDP and higher, they almost automatically create inflation (see his 28 April 2020 webcast at 22min, 28sec). Roubini also seems to equate monetized fiscal deficits with currency debasement in his fourth Deadly D. We find, however, that he does not fully explain these relationships, so that they therefore require greater scrutiny in future critiques.

private debt, the COVID-19 pandemic has extended the debt overhang and created a more precarious situation should negative supply shocks strike.

"Deglobalization" causes a negative supply shock that in turn increases the price of goods and services. Contributing processes include:

- digital disruption, as reshored production replaces labor with automation (DD5);
- constricted supply chains and economic nationalism (DD6);
- a backlash against globalization and liberal democracy spurred by rising prices, unemployment, and inequality (DD7);
- geopolitical rivalries that increase global fragmentation (DD8) and interrupt technological collaboration/innovation (DD9); and
- escalating disruption of all economic activity by human-made disasters (DD10).

Deglobalization makes goods and services more expensive in real and nominal terms, so people cannot purchase as much as before, and economic activity becomes stifled. Higher production costs cause prices and wages to rise and thereby boost inflation expectations, in a vicious inflationary cycle (see Figure 6).

Initially the COVID-19 pandemic caused a negative supply shock, as China's lockdown interrupted global supply chains in early 2020. In the months following, the pandemic exploded in the advanced economies of Europe and North America and spread to emerging and developing markets in Asia and Latin America. As advanced economies entered lockdowns that restricted the movement of goods and people, the pandemic squeezed consumption, becoming a negative demand shock. Economic activity plummeted as millions lost their jobs, and housebound people spent less.

Negative demand shocks

Figure 3 charts the system interactions that Roubini proposes are generating a negative demand shock today and that will cause this shock to persist into the future. It reveals the centrality of debts, deficits, and defaults in the relationships leading to stagflation.[5] Governments and firms were highly leveraged and over-extended before the pandemic, and debt (public and private) has vastly expanded in the response to COVID-19. The diagram also demonstrates that a multitude of important relationships operate in concert to generate stagflation, as explained below.

[5] Centrality refers to the number of connections a factor has to other factors, wherein the most connected are most central.

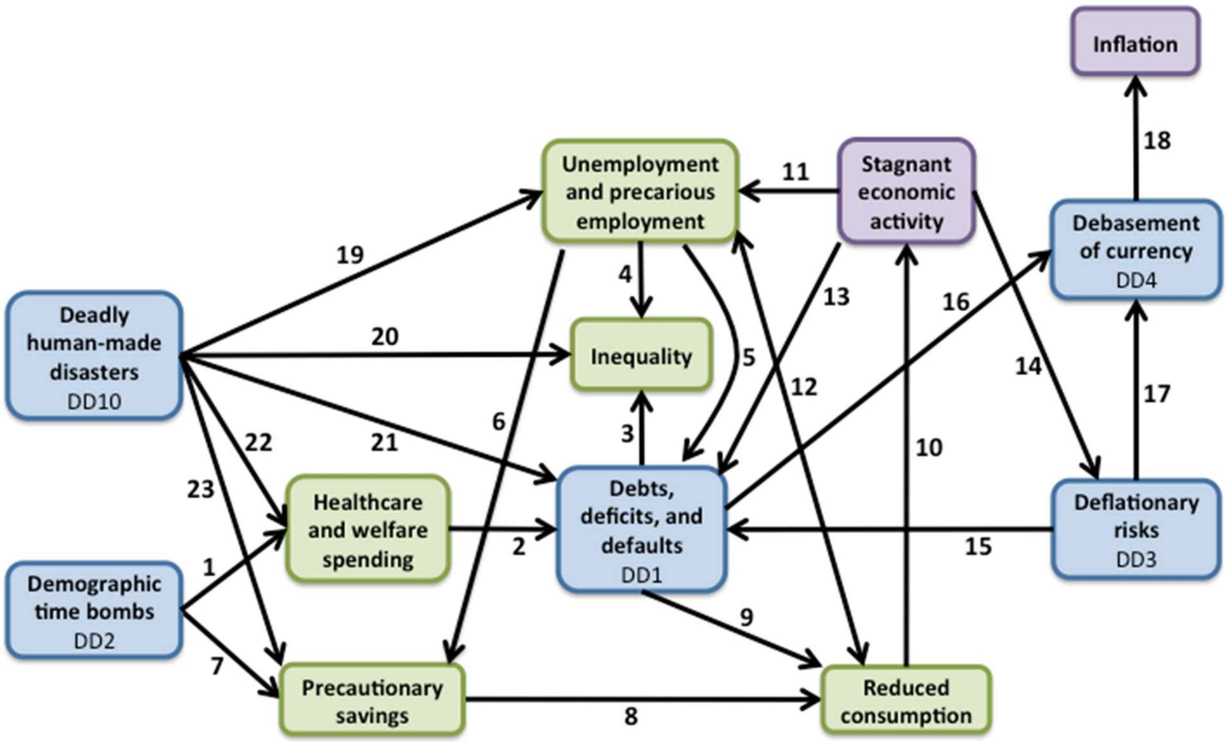

Figure 3: Negative demand shocks

Blue boxes are Roubini's deadly Ds (DD); **green boxes** are intermediary causes; and **purple boxes** are the stagflationary outcomes that define the Greater Depression.

The pandemic has laid bare the inadequacies of healthcare and social security for multitudes of vulnerable people, and an aging population will require much greater spending on such protections (arrow number 1). That spending is likely to enlarge government deficits (where protections are publicly funded), and private debts (where such protections are private) (2). Debts and defaults will exacerbate socio-economic inequality, because they will disproportionately affect the most vulnerable and drive them deeper into poverty (3).

Unemployment and precarious employment (employment at lower wages, with fewer hours, and without benefits) also disproportionately affect the worst-off, and thereby increase inequality (4), as well as debts and defaults (5). To the extent they can, the unemployed and precariously employed will increase their precautionary savings in anticipation of future calamity (6), as will those demographics most exposed to gaps in healthcare and social security (7). Precautionary savings reduce economic consumption (8), as do rising debts and defaults (9). Low consumption lessens economic activity (10) generating lay-offs and more precarious forms of employment (11). Those whose jobs are affected will consume less, and lower consumption places further pressure on employment (12). This two-way relation captured by arrow 12 creates a pernicious positive feedback, discussed further below.

Lower economic activity will augment debts and defaults and compel governments to mount stimulus spending (13). Lower economic activity also creates risks of deflation (14)—as lowered demand puts downward pressure on prices—which could place more firms in debt and default, and thereby further encourage governments to spend to increase economic activity (15). Increasing fiscal deficits and excess liquidity reduce the real value of the currency (16). The risk of price deflation can further reduce the value of the currency, if it compels governments to print more money or devalue the currency to boost exports (17). Such currency debasement creates inflation (18).

Deadly human-made disasters exacerbate the negative demand shock in several ways. Pandemics such as COVID-19 require lockdowns and public health measures that increase unemployment and underemployment (19). Public health crises and the impacts of climate change (such as increasingly frequent and severe weather events) disproportionately affect the already vulnerable, and thereby increase inequality (20). These calamities also enlarge debt and necessitate deficit spending by government (21), including higher spending on healthcare and social security (22). Finally, pandemics and climate change create uncertainties about the future that lead the prudent to increase their precautionary savings (23), further dampening economic activity.

Negative supply shocks

The financial crisis of 2007-9 was a negative demand shock. Two *positive* supply shocks aided in the recovery: deepened globalization and technological advance. Globalized trade took advantage of cheap production costs in China, India, and other countries with low wages, global competition pushed prices down, and migration helped keep labor costs low. Technological advances further reduced spending on labor, allowed more services (such as customer service) to be off-shored to areas with cheaper labor, and enabled online retail competition that pushed prices down even more.[6] These forces ultimately made goods and services less expensive and facilitated economic growth after the slump. Roubini argues that these two forces are now transforming into *negative* supply shocks as the reversal of globalization and increased technological rivalry render goods and services more expensive, lowering economic output and increasing inflation.

[6] See Roubini's 19 May 2020 webcast.

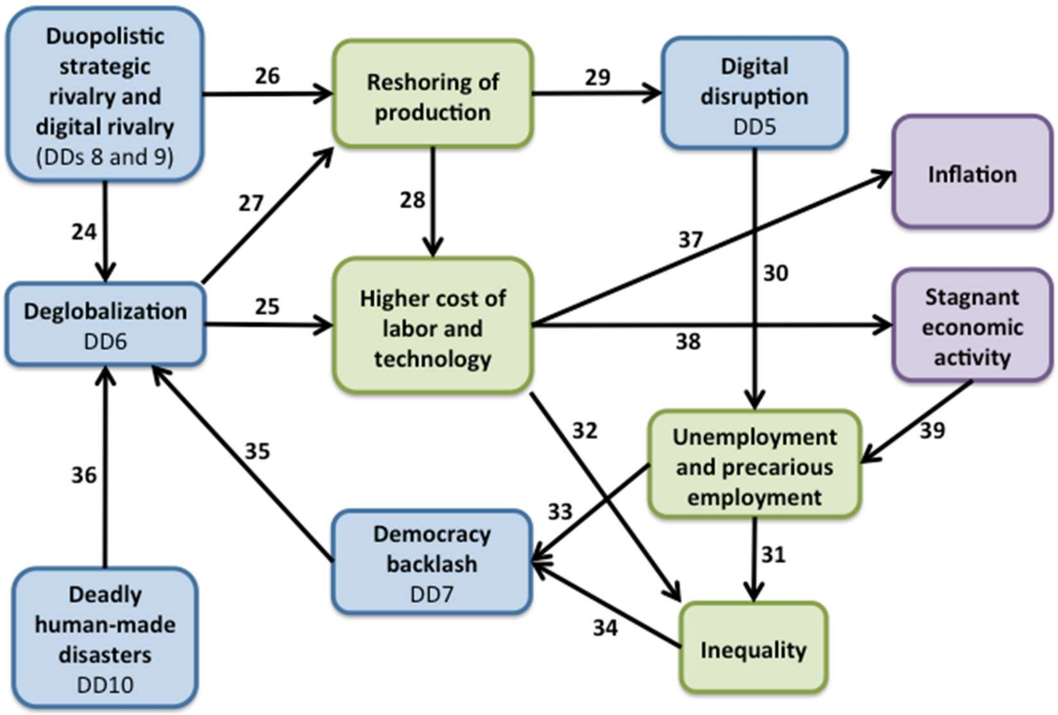

Figure 4: Negative supply shocks

Blue boxes are Roubini's deadly Ds (DD); **green boxes** are intermediary causes; and **purple boxes** are the stagflationary outcomes that define the Greater Depression.

The growing strategic rivalry between the United States and China, as well as the United States versus Russia, Iran, and North Korea, includes technological competition as a matter of national security. These strategic and digital rivals are more likely to safeguard their technology sectors in order to gain the lead in the industries of the future and enhance their cyber-war capabilities. They will therefore limit trade and market access for high-tech products, and fragment global supply chains to reduce interdependence. This orientation will reverse longstanding trends of global integration (24). By reducing the benefits of free trade, specialization, economies of scale, and technological exchange, deglobalization will increase the costs of labor and technology (25), which will inflate the prices of goods and services (37).

Strategic rivalry will also lead advanced economies—and the United States in particular—to bring home production processes currently operating in low-wage areas of Asia (26). Deglobalization's fragmentation of economic networks will further bolster this impulse to reshore production (27). As production moves to higher wage areas at home, however, the costs of labor and technology will rise (28). To save on labor costs, firms will increasingly turn to automation and artificial intelligence to replace workers (29), thereby increasing unemployment and precarious employment (30). In this way, the reshoring of production does not create jobs at home, as many anti-globalization advocates would hope. Unemployment will disproportionately affect unskilled and blue-collar workers, and thereby increase inequality (31), as will price increases that hurt the poor most deeply (32).

Unemployment (33) and rising inequality (34) propel a backlash against liberal democracy and globalization, ushering in more populist and authoritarian leaders who pursue further deglobalization with nationalistic and protectionist economic policies (35). Human-made disasters, whether related to climate change, health crises, or other problems, also weaken globalization by increasing the costs (and risks) of global interconnection (36).

Higher prices of goods and services (and lower purchasing power) produce inflation (37), as elaborated further below. They also stifle economic activity (38), which increases unemployment and precarious employment (39).

Figure 5 below joins the negative demand shock and negative supply shock diagrams into one comprehensive system map of Roubini's argument. By laying out the argument in this way, we can more easily spot the positive feedback loops that speed the descent into economic depression. (Note that numbers 4 and 31 refer to the same connection/arrow, as do numbers 11 and 39).

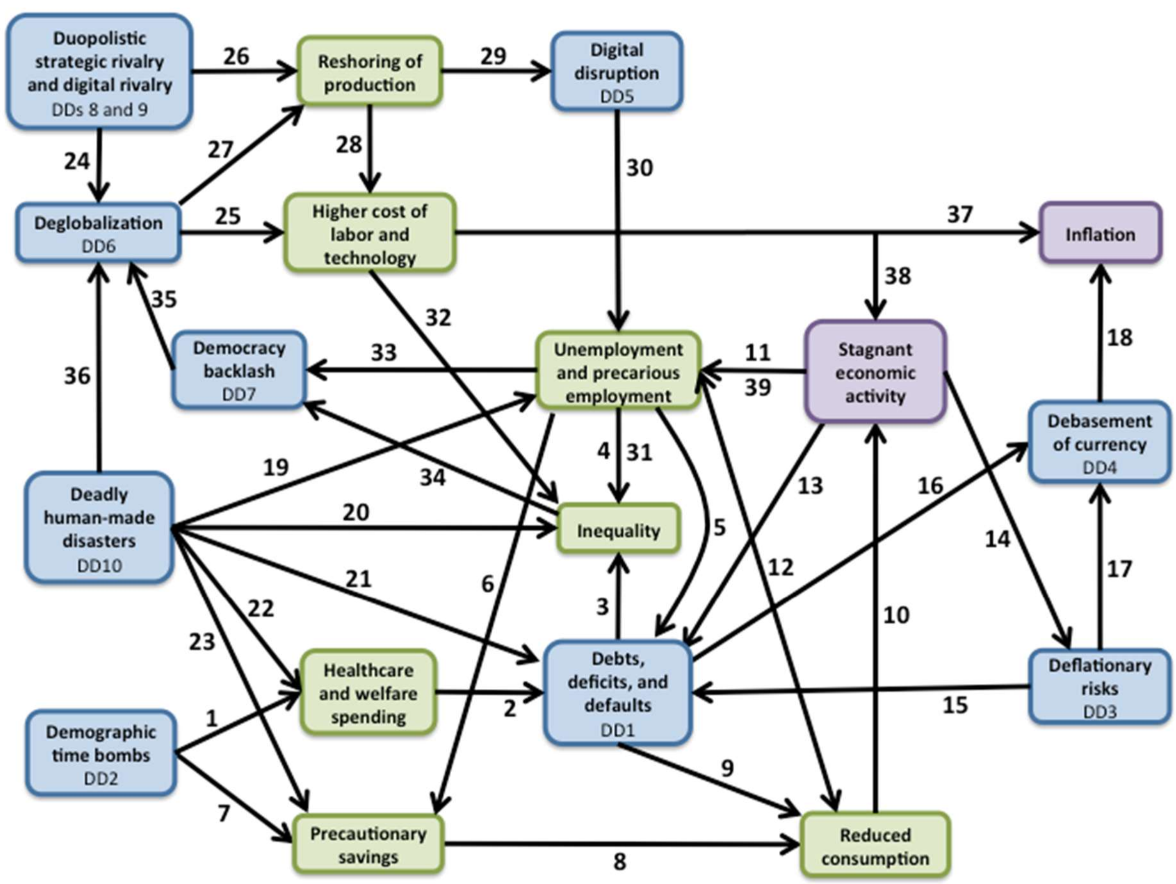

Figure 5: A full system map of Roubini's argument

Three pernicious positive feedbacks

Within Roubini's analysis, three positive feedbacks are particularly powerful and alarming. In the first (detailed in Figure 6), deglobalization feeds on itself by producing economic dislocations that fuel populist nationalism, which aims to further dismantle global interconnection. A crucial impulse of deglobalization is to reshore production (27) from areas with cheap labor (such as Asia) to places where labor is more costly (such as North America and Europe). Firms will increasingly turn to automation in order to avoid these higher labor costs (29). Consequently, they will exacerbate unemployment and precarious employment (30), which will increase inequality by affecting low- and un-skilled workers in particular (4/31). Unemployment (33) and inequality (34) stoke populist politics based on xenophobia and economic nationalism, which bolster the deglobalization impulse (35).

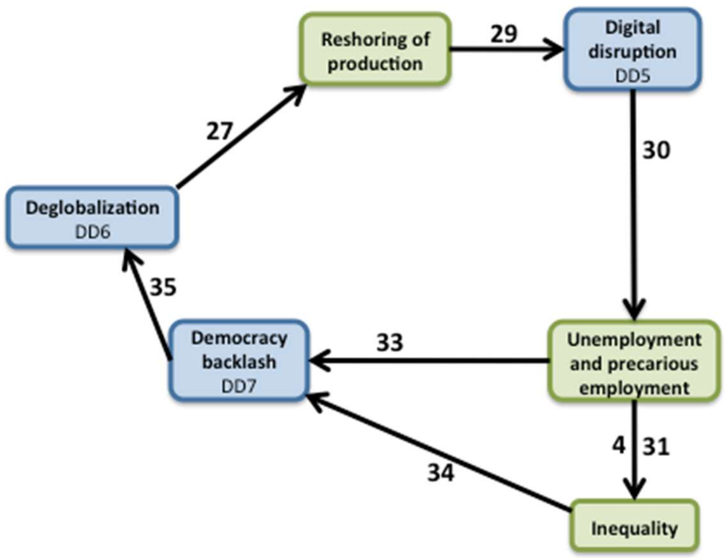

Figure 6: The deglobalization feedback

The recent election of Joe Biden as President of the United States may seem to interrupt this cycle. He is not a populist, and has eschewed the nationalist orientation of "America First" in favour of renewed US leadership on the world stage. But this pernicious positive feedback will likely persist nonetheless. Biden will continue to view China as a rival and maintain many extant restrictions on economic exchange; he is willing to use protectionist measures to bring back manufacturing jobs; the digital disruption of the economy will proceed and imperil such employment; and continued inequality and economic insecurity will carry strong anti-globalist sentiment into the future.

In a second pernicious positive feedback (Figure 7), economic stagnation worsens itself. Unemployment and precarious employment heighten debts (5) and lower consumption (9). Reduced consumption slows economic activity (10), which generates more un- and under-employment (11/39). Arrow 12 represents a positive feedback in itself. The unemployed and underemployed have less money to spend and thus decrease their consumption, and the lower demand worsens unemployment.

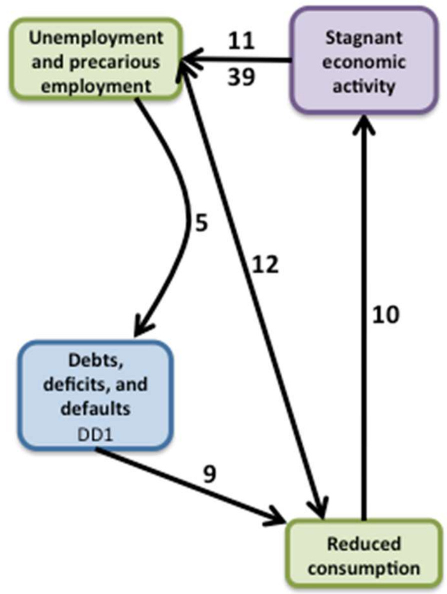

Figure 7: The economic stagnation feedback

Figure 8, finally, depicts the self-reinforcing nature of stagflation (stagnant economic activity coupled with inflation) by adding two additional intermediary variables to the argument (rising interest rates and a debt-servicing crisis). Once inflation kicks in, central banks will raise interest rates in order to reduce liquidity (40), but doing so further dampens economic activity (41). Higher interest rates will also trigger a debt-servicing crisis (42) that augments debts, deficits, and defaults (43). Consumption will fall accordingly (9), and further depress economic activity (10). In this way, stagflation reinforces itself.

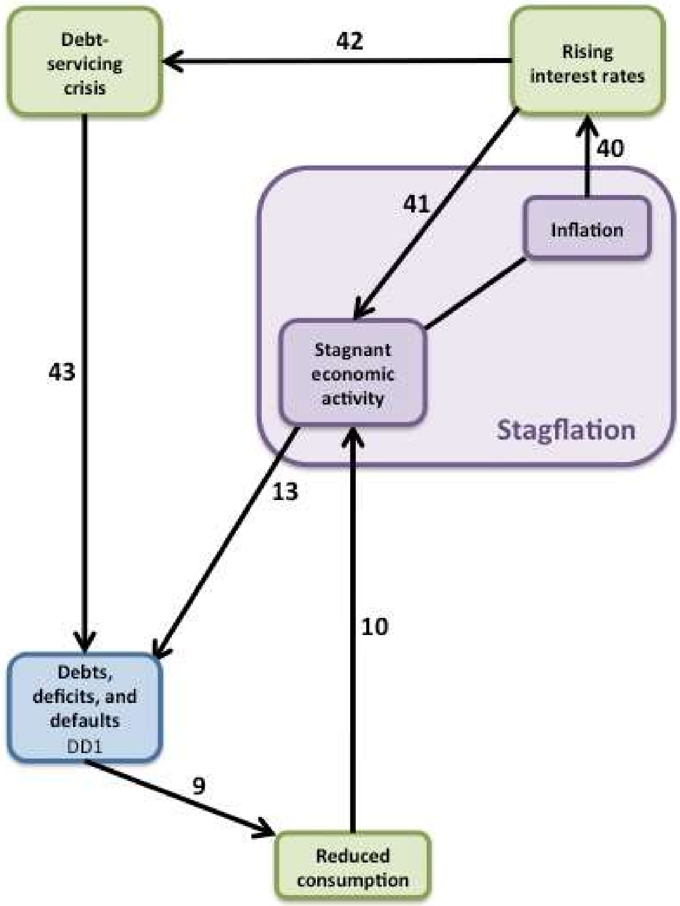

Figure 8: The stagflation feedback

Inflation at the crux of our economic future

It will be no surprise if, as Roubini predicts, economic activity remains low over the coming years. It's a bit more difficult to understand when and why inflation might kick in. The question of whether or not we will fall into a stagflationary economic depression hinges on whether or not significant inflation appears in the wake of the massive spending with which governments have responded to the pandemic.

On one hand, advanced economies such as the United States, Japan, and Europe have for years *failed* to reach their targets of 2 percent annual inflation, which they consider to be the optimal rate. Governments have not been able to trigger inflation even when they have deliberately tried to do so. In mid-September 2020, Jerome Powell, Chair of the US Federal Reserve, declared that he would allow inflation to exceed 2 percent in order to raise employment (Pittis 2020b).

On the other hand, the massive overhang of public and private debt, including monetized fiscal deficits, creates an acute vulnerability. If significant inflation does appear, central banks will "have to raise their policy rates and in turn pay out vast sums of interest on the new reserves that that they have created to buy bonds" (*The*

Economist 2020b). Simultaneously, if inflation pushes up real interest rates, millions of households and businesses will be unable to service the debts they have accumulated. Given this precarious debt overhang, Roubini argues, just a small increase in inflation—not anything resembling the hyperinflation of Weimar Germany, Zimbabwe, Argentina, or Venezuela, but only a small bump to four percent or so—will send advanced economies into a depression (Levitz 2020).

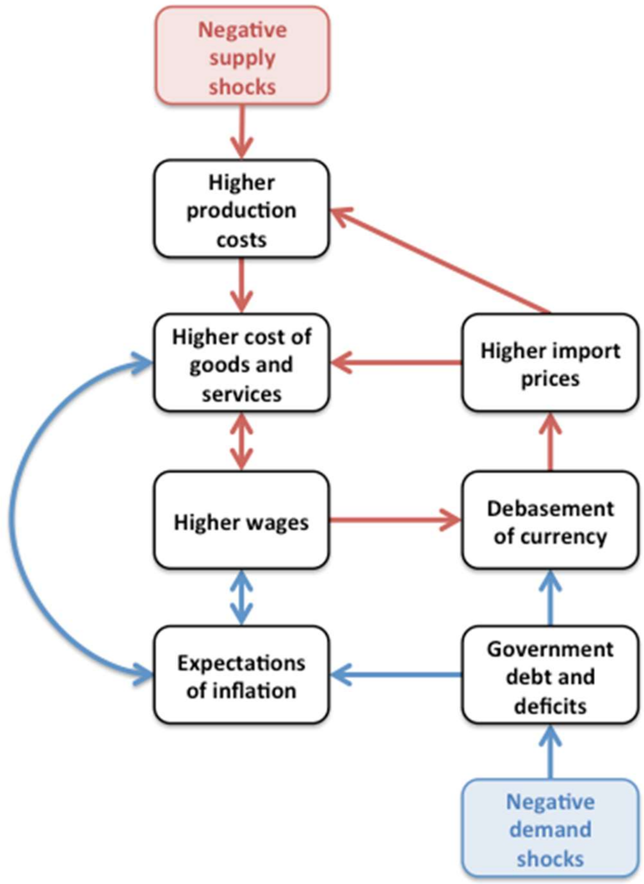

Figure 9: The vicious cycle of inflation

Inflation could propel itself through the vicious cycle depicted in in Figure 9.[7] Beginning at the top left, negative supply shocks increase production costs, which then increase the prices of goods and services. As the nominal cost of living increases, workers bid up their wages to compensate. The currency begins to lose real value, and governments may even debase their own currencies to boost exports. One of the consequences, however, will be higher prices for imports, which increase the cost of production and of goods and services.

[7] Roubini presents fourteen reasons why inflation will soon return in his May 19 webcast at 37m, 28s. Figure 6 is based largely on his explanation.

At the same time, negative demand shocks (bottom right) compel governments to take on debts and deficits to stimulate the economy. By increasing the money supply, these measures further lessen the real value of the currency. Government debt and deficits also increase *expectations* that inflation will grow, which become a self-fulfilling prophecy. Workers who expect inflation will fight for higher wages, and wage increases reinforce peoples' perceptions that inflation is rising. Businesses will similarly increase their prices to stay ahead of inflation, but those price increases support expectations of further inflation.

Although official estimates of nominal inflation remain very low, *real* inflation—the rising cost of the goods and services most important to consumers—appears to be occurring today, because the pandemic has shifted consumption patterns. Official measures of inflation track changes in the nominal price of a standard basket of consumer goods. But the pandemic has altered the ways in which people spend their more tightly constrained budgets. Expenditure on hotels, airfare, gasoline, movie tickets, and restaurants, for example, has plummeted. The consequent drop in the prices of these goods holds inflation estimates down by counteracting price increases for other goods and services, even though few people are actually buying these goods. The things people care most about during the pandemic slump—such as rent, housing, groceries, and home delivery—are becoming costlier, but the impact of these increases is not fully captured by measures focused on the "standard" basket of consumer goods. So real inflation has already appeared, even though official estimates of inflation remain low.

The surge of liquidity and credit arising from monetized deficits and other central bank interventions is also producing inflation of another kind: speculative bubbles all over the planet in equities and real estate as investors scramble for returns in an era of ultra-low interest rates. Price increases in stocks, land, and housing are only indirectly reflected in standard inflation metrics—through, for instance, higher residential and commercial rents—but they further exacerbate economic inequality by shifting wealth to those who can afford to purchase such assets.

It is notable, finally, that Roubini's analysis seems ultimately to complement, rather than contradict, Modern Monetary Theory. Roubini and modern monetary theorists both advocate deficit spending until inflation kicks in. Although Roubini frequently maintains that "helicopter drops of money" or "QE infinity" versions of MMT presume, falsely, that deficit spending can continue indefinitely, that is not the view of MMT proponents such as Stephanie Kelton who, like Roubini, argues that deficit spending cannot go on forever, but only until it provokes inflation.

Implications for Action

Box 2: In Roubini's Words

"The issue is not when or whether there will be a Greater Depression. . . . It's not avoidable, because these [ten trends] were already in motion in the last decade [and they] are becoming intensified during this decade. The only question is what happens after."

Nouriel Roubini, 28 April 2020 webcast, at 44m 14s.

Roubini does not seem to think there is anything we can do to prevent or mitigate the coming Greater Depression. Monetary and fiscal measures "can only postpone the reckoning" or "kick the can down the road."[8] Indeed, he suggests we are in a situation where we are damned if we do, and damned if we don't, in two key respects.

First, Roubini contends that massively monetarized deficit spending is indeed the appropriate measure to re-stimulate the economy, overcome negative demand shocks, and speed economic recovery in the wake of the pandemic. In this regard, he predicts a U-shaped economic recovery through the end of 2020. But deficit spending will only augment the debt overhang. Once negative supply shocks become more pressing, inflation will begin to rise, and the economy will be in a much more precarious position.

Second, once inflation reappears, central banks could increase interest rates to tighten the money supply, reduce the velocity of money's circulation, and slow inflation. Raising interest rates, however, will crush the economic recovery and trigger a debt crisis. Alternatively, central banks can leave interest rates alone, but this will allow inflation to grow unabated and ultimately ravage the economy.

The core policy implication is that monetized deficit spending should stop once inflation begins to rise and negative supply shocks become more powerful than negative demand shocks. Roubini predicts that negative demand shocks will dominate in 2020 and 2021, but negative supply shocks will become more severe beginning in 2022.[9] At this point, governments should switch from quantitative easing to quantitative tightening (reducing the money supply) in order to reduce their deficits. But these actions, if pursued, would merely keep the depression from getting worse; they would not prevent the calamity.

Because Roubini sees scant chance of avoiding a Greater Depression, he offers few prescriptions for action. But if we are indeed amidst a "profound shift" in economics "of the sort that only happens once in a generation"

[8] See the beginning of Roubini's 28 April 2020 webcast.
[9] See Roubini's 19 May 2020 webcast.

(*The Economist* 2020b), Roubini's analysis invites some big-picture thinking about the future. Three longer-term implications stand out.

After the Greater Depression: Roubini proposes that the real question is not whether we are entering a Greater Depression, but what will come after it.[10] In his best-case scenario, the traumas and hardships of the next decade could channel widespread dissatisfaction with present institutions into broad-based transformations that create a more stable, equitable, and peaceful global order. Reinvigorated global cooperation could yield progress against climate change, inequality, and international tensions that benefits all.

In Roubini's worst-case scenario, a decade of depression leaves the world more divided, hostile, and ineffectual than ever. Climate change, inequality, and animosity worsen. Just as the Great Depression of the 1930s led the way into World War II, the Greater Depression of the 2020s could lead to an even larger cataclysm, one that threatens the survival of the human species as a whole.

If Roubini turns out to be right, and a Greater Depression occurs, we must make every effort to turn calamity into opportunity and build a better global institutional order—one that works for everyone. The following implications will be crucial.

The False Promise of Continued Economic Growth: Whether dealing with recession, depression, recovery, or prosperity, today's conventional economic paradigm remains committed to economic growth—and continually increasing human consumption—as the measure of success and cure for whatever ails us. This prescription is likely to be self-defeating, however. The continued expansion of material consumption means more pollution, higher energy use, greater environmental disruption, and faster entropy creation. These consequences will worsen climate change in ways that could undermine the global economy. They will cause higher temperatures that render entire regions uninhabitable; sea level rises that inundate many of the world's largest cities; increasingly frequent and more intense weather events, from droughts to hurricanes to floods; and mass migrations of climate refugees into more temperate zones that are already plagued by xenophobia. The only ways out of this trap are to decouple economic growth from material consumption, or to discard the whole growth fetish altogether and replace it with a more sustainable economic paradigm, the contours of which exceed the scope of this paper.

Inequality and Social Breakdown: One of the critical known unknowns about the near future is the point at which growing socio-economic inequality leads to wide scale breakdowns of societies and their core institutions. Such a moment could easily be the non-linearity that tips a Greater Depression into something even worse. A key contextual feature of the current economic slump is the weakening power of labor relative to capital. "It is no secret that what is good for Wall Street is bad for Main Street," Roubini (2020b) asserts.[11] As the wealthiest continue to increase their share of global wealth and income, the poor become more desperate, eschewing

[10] Roubini discusses this issue in his April 28 webcast, beginning at 44m, 14s.
[11] Of the rapid recovery of stock markets, Roubini (2020b) comments: "With the wealthiest 10% owning 84% of all stocks, and with the bottom 75% owning none at all, a rising stock market does absolutely nothing for the wealth of two-thirds of Americans."

gradual institutional reform in favor of more radical upheaval. To avoid such an outcome requires serious efforts to address economic inequality, through better public services, government investment in citizens, business investment in workers, and a cultural swing towards hope, compassion, and respect.

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