What Next for the Post Covid Global Economy:

Could Negative Supply Shocks Disrupt Other Fragile Systems?

by

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A. The Nature of the Policy Problem

Successful policymakers first define clearly the objectives they are seeking to achieve. Fortunately, in recent years a consensus seems to have emerged in democratic countries that we want "sustainable and inclusive growth in a free society". Less fortunately, there are still many different views about the appropriate trade-offs between these varied objectives when specific policy suggestions imply more of one good thing (say sustainability) and less of another (say inclusion). Vigorous debates around such issues are underway and seem sure to continue.

What seems less well understood is that success in meeting policy objectives, however ordered, depends on the sustainability of each of a number of underlying systems. Tolstoy famously wrote that "All happy families are the same, but each unhappy family is unhappy in its own way". By this he meant that many conditions must be met simultaneously to ensure happiness in a family. Similarly, instability in any one of our economic, political, environmental or public health systems would prevent us from realizing our broader policy objectives. Worse, a breakdown in any one of these interdependent systems could lead to a breakdown in other systems as well.

Each of these underlying systems is, by nature, a complex adaptive system (CAS)[1]. Such systems involve the interaction of many heterogeneous agents (each following simple rules) that are constantly interacting (often with positive feedback loops[2]), and evolving in consequence. Their fundamental properties ("emergent properties") arise from these interactions. By analogy, they are much

[1] For a layman's introduction to this literature see Ball (2012).
[2] Buchanan (2013).

more like forests than machines. CAS share many characteristics, but the one most pertinent to this volume is that these systems regularly become unstable with probabilities being determined by a Power Law. That is, small instabilities occur much more frequently than larger ones.

Unfortunately, each of the systems just referred to is showing increasing signs of stress and potential instability. Our economic and financial system has already suffered numerous crises in recent years. Our democratic political systems are under increasing attacks from both left and right. Our environment is threatened by population growth and still rising emissions of green house gases. And finally, our public health systems were almost overwhelmed by covid 19, just one of over two hundred zoonotic pathogens identified since the end of World War ll. These threats to our health will reoccur and indeed will become more severe in light of climate change[3].

Against this broader background, the particular issue dealt with in this chapter is the likelihood that further problems will emerge in our economic and financial system (Section B. below), and the likelihood that these problems will spillover into the political sphere (Section C. below)[4]. In Section D. attention is directed to policies that might help preserve stability in the economic and political spheres. Unfortunately, implementing such policies also involves a political process that might or might not be supportive.

B. Could Economic Stability be Threatened by Negative Supply Shocks?

Many, perhaps most, of the people who lost their lives during the covid pandemic suffered from comorbidities. That is, they had serious illnesses before being infected. Similarly, the global economy suffers from many initial imbalances, both real and financial, that increase the likelihood of a serious economic downturn should negative supply shocks materialize. The potential effects on the stability of the global financial system and the economy, of tighter monetary policy in response to such shocks, is a particular source of uncertainty.

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[3] See Barnes (2022)

[4] Similar papers could be written about each of the twelve direct spillovers (in both directions) possible between four nested systems. Then, of course, consideration would also have to be given to how spillovers could then have spillovers in turn. Complex indeed!

Indicators of underlying fragility

Perhaps the most important concern is that global debt ratios[5] have been rising for decades, and this continued even after the Global Financial Crisis. Moreover, the rate of increase accelerated sharply with the onset of the pandemic. The Institute of International Finance[6] estimates a ratio of 280% (end of 2008), rising to 321% (2019) and then 360% (peak 2021). Moreover, the quality of that debt has been declining. Corporate debt ratings have been falling, with a growing percentage of new bond issues clustered just above the "junk" level[7]. Further debt downgrades would make many such bonds ineligible for purchase by many institutions. In addition, loans to corporations increasingly involve higher leverage, floating rates and are "covenant light". This implies growing risks as interest rates rise and unusually low recovery rates in the case of corporate bankruptcies. Finally, the IMF estimates[8] that 60% of Low-Income Countries are already "in or at high risk of debt distress", a level that has doubled since 2015. Indeed, UNCTAD became so concerned that, early in October 2022, it actually called[9] for the Federal Reserve to stop monetary tightening to alleviate the strain of higher debt service on poorer countries.

Also of concern have been the high valuations given to many assets, the so-called "everything bubble", with equity valuations and record high house prices being of particular concern in many countries. While some of these prices fell throughout the first half of 2022, concerns remained that further falls were warranted. The McKinsey Global Institute[10] noted that the historic link between the growth of net worth and GDP has been broken since around the turn of the millennium due to the sharp increase in asset prices in subsequent years. Moreover, their calculations show that less than 7% of total assets (real and financial) are productive real assets like infrastructure, machinery and equipment, and intangible investments. In short, we are confronted with a massive, inverted

[5] Defined as the sum of private (household and corporate) and public debt over GDP
[6] The Institute of International Finance publishes a regular Global Debt Monitor. See also J P Morgan (2022)
[7] The Economist magazine (2022) estimates that 58% of investment grade non-financial corporate bonds are rated BBB. As well, 20 % of listed US and European companies have an interest coverage ratio of less than two.
[8] Chabert et al (2022)
[9] As reported in the Financial Times (2022)
[10]McKinsey Global Institute (2022)

pyramid of “measured assets” resting on a tiny fulcrum of “the type of assets that typically drive economic growth”[11].

It is also a fact that investment ratios in many countries have been weak since the onset of the GFC and that the growth rate of total factor productivity has been slowing. Many commentators suggest that ultra-easy monetary policy has contributed to this by sustaining “zombie” companies[12], encouraging resource misallocations[13] and by supporting valueless mergers and acquisitions[14]. All of these factors imply that, if the historic link between the growth of net worth and GDP is to be restored, it is more likely to be due to a further reduction in asset prices than to a sharp increase in real GDP.

The malfunctioning of financial markets could be another indicator of potential problems. There have been a growing number of “anomalies”, where prices fail to adjust to satisfy arbitrage conditions.[15] “Flash crashes”, where prices move vastly in excess of what Normal distributions would imply, have also been sharply on the increase. Finally, market liquidity has been declining in many markets for years, with the market in US Treasuries being a recent and notable addition. Indeed, conditions deteriorated so much in September 2019 and March 2020 that the Federal Reserve felt compelled to intervene with massive purchases of bonds and other measures to support prices.

The stability of financial firms has also been questioned. Banks capital requirements have been raised substantially, but from levels that Paul Tucker once called “wafer thin”.[16] The question then arises if they have been raised high enough, with many experts expressing serious doubts[17]. Their arguments are supported by noting that that banks face new and unprecedented risks: increasingly outdated technological platforms, competition from FinTech firms, cyber crime, climate change and profit margins squeezed by low interest rates.

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[11] Ibid. p. 10.
[12] See OECD (2017) and Banerjee (2018).
[13] Not least, companies whose business model is focussed, not on medium term profits, but on the use of price subsidies (like Uber) to gain market share and eventual market domination. Evidently, only one of the various firms competing in a given sector can be such a winner.
[14] See Lynn (2010)
[15] See Borio et al (2016). Perhaps most important, the covered interest parity theorem has been violated almost continuously since 2008.
[16] Tucker (2018)
[17] For a list, see White (2021) p.170

Similarly, the business model of insurance companies faces threats from climate change while pension funds fear the effects of aging. Both also suffer from low interest rates on longer term bonds. In response, both sectors have increased risk taking and leverage in a "search for yield". These are all "known knowns". Perhaps even more important are the "known unknowns". Tightened post GFC regulation, especially of banks, has led to significant structural change within the financial sector. Market finance has gained at the expense of traditional financial intermediaries, with asset management firms and private equity firms becoming increasingly important. How this essentially unregulated shadow-banking sector might react to periods of market stress remains a critical "known unknown"[18]. And, finally, the reality of the "unknown unknowns" must also be recognized. Financial instability can cascade outwards from unexpected places.

Supply side shocks to date and the policy reaction

Against this backdrop of growing imbalances and potential financial stress, the global economy by mid 2022 had had to adjust to two significant supply side shocks: the covid pandemic and the Russian invasion of Ukraine. The former significantly affected the supply of labour, and the latter contributed to higher commodity prices, especially for food and energy. European producers were also constrained by the limited availability of Russian gas, as Russia responded to NATO sanctions with trade measures of its own. However, in both cases, there was also a negative effect on demand which helped constrain the broader effect on global inflation. If workers stayed home in response to covid (and "lockdowns" of various sorts), consumers also stayed home which had a particularly depressing effect on the demand for services[19]. In the case of higher commodity prices, the consumers of such goods had less income left over to purchase other goods and services. The effect was thus deemed to be "stagflationary"; ie, the commodity shock both lowered growth and raised prices[20].

The macroeconomic authorities in the advanced economies clearly gave priority to sustaining growth over reducing inflation. In response to the pandemic,

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[18] The IMF expressed concern that "open end funds holding illiquid assets while offering daily redemptions can be a key driver of fragility in asset markets". See International Monetary Fund (2022).
[19] An important factor working in the opposite direction was the ordering of goods over the Internet. This pushed up sharply the ratio of good to services in GDP and created bottlenecks in supply systems for goods worldwide.
[20] This was the common interpretation of the effects of the energy price shocks of the 1970's.

government deficits rose sharply in 2020 and 2021, with the US deficit averaging 10.5 percent of GDP.[21] Monetary policy was also eased sharply, with policy rates reduced to zero in some countries and even below zero in others. As well, major central banks engaged in “Quantitative Easing” leading to unprecedented increases in their balance sheets. The size of the balance sheet of the Federal Reserve alone went from $4 trillion in early 2020 to $9 trillion in mid 2022,[22] almost 23 percent of GDP. As a result of this joint easing, the growth rate of the money supply also rose sharply[23], reaching 42 percent in the US and 21 percent in the Euro area (end 2019 to May 2022).

In retrospect, it seems clear that this policy response was excessively expansionary since core inflation (ex food and energy) subsequently began to rise sharply in most advanced countries. By the second half of 2022, overall growth in the CPI (over the past year) was close to ten percent in many countries, a level not seen since the 1970’s, and wage growth was also accelerating.

Early in the pandemic, the authorities underestimated how much supply potential had been reduced by illness and lockdowns, and how much goods prices would rise in response to demand shifts and disruptions to international supply chains. Later on, the authorities erred in suggesting that these shocks would only be “transitory”, thus concluding that monetary resistance was unwarranted[24]. Compounding these mistaken assessments of supply side issues, the authorities failed to foresee the rapidity of the post pandemic recovery of demand and employment and its effect on inflation. The prevailing wisdom was that Philips curves were flat[25] and that inflationary expectations were well anchored. In retrospect, both of these assumptions have also proved “wildly incorrect”[26].

As the economic effect of the pandemic eased, and fiscal support schemes ended, government deficits began to fall. Perhaps more importantly, central banks around the world eventually began to tighten monetary policy in response to

[21] This was three times the pre pandemic level.

[22] Three earlier rounds of Quantitative Easing, starting in 2008, increased the portfolio by only $3 trillion.

[23] The fiscal authority made expenditures which showed up as increased deposits at commercial banks (money). These expenditure’s were largely financed by the central bank, whose asset holdings (of government bonds) rose along with their liabilities (reserves held by commercial banks).

[24] The conventional wisdom in central banking circles is that “temporary” increases in aggregate price measures, due to a relative price shift (eg higher energy prices), should be ignored by the monetary authorities.

[25] That is, a fall in the level of unemployment would not lead to significantly higher inflation.

[26] See Wheeler and Wilkinson (2022) p. 7.

rising inflation. The size of successive rate increases, and the proportion of the world's central banks participating, were both unusually large.

This aggressive response reflected concerns that a wage-price spiral was already developing, and that by some measures monetary policy was still extremely loose[27]. In effect, the credibility of central banks as inflation fighters was thought to be in the balance. As well, due to the relative tightness of US monetary policy, the effective value of the US dollar also rose to record highs. Since this implied a lower value for other currencies, and higher prices for imports priced in US dollars, other central banks had yet another reason to follow the example of the Federal Reserve. Moreover, the failure of monetary tightening to show quick results, especially in the US, strengthened the argument that further tightening would be necessary near the end of 2022 and into 2023.

In contrast, others argued near the end of 2022 that further tightening should proceed cautiously if at all. Given the normal lags in the effect of monetary tightening on inflation, further effects were in the pipeline. It was also thought possible that simultaneous tightening in many countries would have effects greater than those anticipated by individual central banks. As well, it was noted that supply shocks in the past did not generally lead to wage price spirals[28] and that longer term inflationary expectations had risen much less than shorter term expectations. This implied that "real" rates at longer horizons had in fact risen significantly.

Perhaps more ominously, those advising caution increasingly drew attention to the underlying fragilities described above as well as growing evidence that monetary tightening was already having significant effects on financial variables[29]. While short term policy rates had risen only about three percentage points in the US, a variety of Monetary Conditions Indicators showed a much greater degree of tightening. Equity market fell sharply though September 2022, while spreads reflecting credit risk and duration risk also widened. The prices of commercial property and houses also declined markedly in many countries, including the US.

[27] For example, real ex post short rates in the US were still around -5 % in mid 2022.
[28] See Bluedorn (2022).
[29] These changes are documented in International Monetary Fund (2022) which notes "There is a risk of a disorderly tightening of financial conditions that may be amplified by vulnerabilities built over the years". For similar warnings going back over many years, see successive Annual Reports of the BIS and White (2012).

Credit markets generally tightened with lower grade credits often finding that credit was simply unavailable. Emerging market borrowers, especially from countries with relatively high sovereign debt ratios, also had financing difficulties. Those who had borrowed largely in US dollars increasingly faced problems of debt service and liquidity constraints.

Market liquidity also became a problem. In October 2022, against a backdrop of rising policy rates, yields in the UK gilt edged market spiked sharply. While the trigger was an "imprudent" UK minibudget, the underlying problem was UK defined-benefit pension funds unwinding leverage dictated by Liability Driven Investment Strategies. As rates on longer term gilts rose, pension funds received calls for "margin" which they could only meet by selling assets whose prices were already under pressure[30]. To short circuit this positive feed back mechanism, the Bank of England was forced to intervene to restore order.

Given previous problems in the market for US Treasuries, this incident immediately raised concerns about similar problems associated with leverage in other countries and in other markets. Moreover, since the Bank of England had to *buy* gilts to support financial stability, when it was already committed to *selling* gilts to support the tightening of UK monetary policy, more fundamental questions arose. Could policies directed to reducing potential financial fragility eventually result in higher inflation?

Further negative supply side shocks and the implications for future inflation

It must first be recognized that the recent, negative supply shocks to the global economy are likely to have significant effects that linger over time. Moreover, a new and rather different set of negative shocks can also be anticipated. Unlike shocks deemed "stagflationary" in the past, many of these shocks will make investment more attractive and strengthen aggregate demand rather than reduce it. This implies that central banks in the future will face even greater difficulties in keeping inflation under control. In turn, this raises the likelihood and the costs of future economic and financial crises.

[30] George Geanakoplos drew attention to these kinds of problems decades ago. See Geanakoplos (2010).

All significant downturns have scarring (hysteretic) effects[31], and the covid pandemic seems especially likely to do so. While supply chain bottlenecks have been mostly overcome, companies have become much more aware of the need to balance resilience against efficiency. In consequence, many old supply structures will have to be written off and replaced with new ones. Further, as long as China continues with its zero covid policy, the reliability its production processes will be suspect, aggravating the need for change in global supply chains. Labour supply effects also seem likely to be long lasting. The working age dead are no longer in the work force and "long covid" is increasingly mentioned as the probable cause of the recent decline in labour force participation rates in many countries.

While the Russian-Ukrainian war aggravated the price rise of many commodities, it is important to note that prices were rising well before the conflict, perhaps reflecting underlying secular trends. A still rising (if decelerating) global population is putting food security at risk. As well, the future supply of both food and other commodities (like lumber) could be threatened by climate change. The production of metals will also be threatened by low levels of past investment, and the reality that most promising mining sites have already been exploited.

The need to confront climate change will impose another negative economic shock, since both mitigation and adaptation will prove costly. Mitigation requires reducing the use of fossil fuels and expanding the use of alternative sources of energy. If the supply of fossil fuels declines (as it has done due to low investment levels) before alternatives can fill the gap, then the price of fossil fuels must rise in the interim. As well, the Investments required to provide alternative fuels and the new infrastructure to use them will also put a heavy demand on resources in aggregate[32]. More specifically, a fossil-free-future is also likely to be a metal-heavy future, putting extended price pressure on particular commodities.[33]. Adaptation will also require heavy investment for relocations, flood barriers,

[31] Cerra and Saxena (2017).

[32] The IEA estimates that investments of $6 trillion per year will be needed prior to to assure a net zero future. For a broad review of this financing problem, see White (2019)

[33] As for demand, consider the need for the metal based ingredients in batteries to power EVs and to meet other storage requirements, the need to construct solar and wind facilities as well as the need for new transmission lines for geographically dispersed electricity sources. As for supply, the typical time lag between identifying a deep mine deposit and actual production is around ten years.

stricter building codes and the like. Finally, in spite of efforts both to mitigate and adapt to climate change, huge losses seem certain to occur regardless[34]. Rebuilding destroyed property and infrastructure will put another heavy strain on global supply capacity.

A recent book by Goodhart and Pradhan (2020) reminds us of yet another emerging supply side problem. The global supply of people of working age has started to decline. This trend started in Europe and Japan but is now evident in China, Korea and many other countries. Goodhart and Pradhan suggest that the shortage of workers will cause real wages to rise, after many years of stagnation linked to more positive demographic trends. Higher real wages for those working, together with a high marginal propensity to consume (out of income) on the part of pensioners, will support future consumption[35]. With this expectation in mind, companies will invest more to replace more expensive workers. The need for higher investment will be compounded by the need for institutional care for the growing proportion of older people affected by dementia. Goodhart and Pradhan project that real interest rates will have to rise for an extended period to lower aggregate demand to meet aggregate supply and resist inflationary tendencies.

Finally, two other negative supply side developments could also contribute to higher prices in the future. First, in recent years, zombie companies[36] and companies selling at subsidized prices to gain market share have proliferated in an era of easy financing. Should financing conditions tighten, and these companies disappear, prices will rise directly. Further, growing market concentration in recent years in many jurisdictions will make it easier for other companies to maintain or even raise profit margins. Second, geopolitical tensions, especially between the US and China, are a further significant threat to the efficiencies provided by global supply chains and global competition in pursuing technological progress. Recalling the earlier discussion of complex adaptive systems, and the degree to which the Chinese and American economies are already integrated, the economic damage caused by these developments should not be underestimated.

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[34] See Keen et al (2021).

[35] This is a controversial insight. Many commentators focus on the fact that pensioners spend absolutely less than working people raising a family.

[36] Se Acharya et all (2020) for a discussion of how such companies can both reduce aggregate productivity growth and lower prices. Also Banerjee and Hoffman (2018).

Negative supply shocks in recent years are already threatening to trigger underlying economic instabilities. Future shocks, possibly more varied and more long lasting, could have even more dangerous economic effects. Both depression (accompanied by deflation) and high inflation are extreme opposite outcomes that are both plausible. In complex, adaptive systems, outcomes arise from feedback processes that are essentially impossible to predict ex ante. However, what we do know is that high debt levels increase economic vulnerability in both good times and bad[37], and that many countries now have very high levels of both private and public debt. Highly respected economists have in fact given concrete descriptions of the processes through which high *private* sector debt can lead to debt-deflation[38] and how high *public* sector debt can end in hyperinflation[39]. The fact that private sector debt often gets transferred to the public sector would seem to tilt the balance in favour of an eventual inflationary outturn[40].

Whatever the outcome, some form of serious economic crisis now seems possible and even likely. In the event of such an economic crisis, the effects on other fragile systems might be quite negative. Potentially, there could be a "cascade of tipping points" between systems[41], similar to the potential cascades that scientists have already identified within the environmental system[42].

For example, a serious economic crisis might have severe fiscal effects that prevented governments from playing a significant role in pursuing climate change mitigation. Given that green house gases are still rising, not falling towards net zero targets already agreed, global warming might proceed to a point (a tipping point) where the process could not be reversed. Similarly, given a severe economic crisis, public health systems might lack resources to respond to new challenges. At the least, the capacity of the health system to address the backlog of operations and appointments arising from the pandemic would severely

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[37] In bad times, debtors have trouble raising revenues to meet existing debt service requirements. In good times, rates rise and debt service requirements rise.
[38] The classic description is given by Fisher (1933), based on his experience of the Great Depression of the 1930s. See also Schumpeter (1934)
[39] See Sargent and Wallace (1981) for the theory of how this process might work, and Bernholz (2006) to see how this process has often been observed historically.
[40] Reinhart and Rogoff (2009) provide many examples.
[41] A recently introduced term for this is "Global Polycrisis", popularized by historian Adam Tooze. See Lawrence et al (2022).
[42] See Keen et al (2121) p.2

compromised. Should these environmental and public health challenges materialize, they would aggravate the threat to political stability. Indeed, these indirect effects of economic instability on political stability could prove, as or even more, significant than the direct effects discussed below.

C. Could Political Stability be Threatened by Economic Instability?

There is a growing literature indicating that financial crises can lead to a sharp decline in voter support for ruling parties, and to a polarisation of views around extremes. Funke, Schularik and Trebesch (2015) identify those extremes as being right- wing Nationalism and left-wing Socialism. Moreover, as Hayek (1944) pointed out in "The Road to Serfdom", both wings are similar in having little respect for individual freedoms[43]. In the end, these extremes can even unite to form anti-democratic movements like the National Socialists in Germany in the 1930's. There now seems general agreement that support for this movement was encouraged by the economic turmoil in central Europe that followed the first World War; first hyperinflation and then the Great Depression. Today, democracy could also be at risk, given some economic trigger, and of course political turmoil has the clear capacity to aggravate the economic problems in turn.

Indicators of underlying fragility

Like an economy, a democratic system is a complex, adaptive system that requires many conditions to be met to ensure its stability[44]. Many of these requirements can be written into laws or constitutions: free and fair elections, one man-one vote, competition for votes based on platforms and a free press among others. However, other requirements are more subtle and hard to codify: public trust in institutions and decent behaviour on the part of political opponents. In turn, the latter requires respect for others motives and a willingness to show restraint in the exercise of power. A corollary of this complexity is that democratic systems are naturally fragile. The failure to meet even one of the necessary requirements could threaten the stability of the whole system.

[43] It is notable that Hayek's book was "Dedicated to the socialists of all parties".
[44] See for example Levitsky and Ziblatt (2019).

Moreover, there is always a tension in democracies between individual freedoms and the public good and these tensions can easily become excessive. On the one hand, James Madison in the Federalist Papers worried that the pursuit of *individual* interests could lead to the formation of factions (parties) that would culminate in "instability, injustice and confusion". An observer of modern-day US politics might add "gridlock" and the failure to address structural problems to Madison's list of concerns. On the other hand, the subordination of individual freedoms to the *public good* could also become excessive. In recent books, Madelaine Albright (2018) and Jason Stanley (2020) have warned that populist causes often tip over into outright fascism[45]. Otherwise put, there can be no guarantee that the "popular will" will always freely choose the democratic way forward.

If the above comments are essentially theoretical, political fault lines are increasingly evident in practice. In many democratic countries, growing inequality is threatening the legitimacy of the political system. Not only is inequality rising with respect to income and wealth, but it is rising with respect to opportunity. Intergenerational mobility has been falling, particularly in the US and the UK, implying that many parents have quite valid reasons to believe that their children will have more difficult lives than they had. Similarly, in many countries the proportion of people or households classified as middle class has been declining, a trend decried by political scientists as far back as Aristotle[46]. Stanley (2022, p.4) summarizes one possible end game as follows "For a fascist party to triumph… voters merely have to be persuaded that democracy is no longer serving their interests". For many voters this might now seem to be the case.

The political impact of these trends has been aggravated in recent decades by an amplification process. It begins with the relatively disadvantaged becoming convinced that the rich and other elite elements are consciously gaming the economic system to their own advantage. The conviction that "it's not fair" then

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[45] I use the word "fascist" in the same way as Albright (2020, p.11) "To my mind, a Fascist is someone who identifies strongly with and claims to speak for a whole nation or group, is unconcerned with the rights of others, and is willing to use whatever means are necessary -including violence- to achieve his or her goals. There can be no direct lineage or direct comparison with the movements of the 1930's.

[46] Aristotle in "Politics" states "It is clear then that the best partnership in a state is the one which operates through the middle people, and also that those states in which the middle element is large…. …have every chance of having a well-run constitution".

triggers an emotional response, of anger and resentment, and a retreat into silos of like-minded people.

In the modern world, this anger is then likely amplified by the "echo chamber" effect of social media[47]. Worse, there are domestic elements in any society who will try to divert that anger into cultural and racial resentment[48]. Finally, there is growing evidence that foreign powers (especially Russia and China) also seek to identify divisive issues in democracies and to aggravate them in order to make their own regimes look better to their own people[49]. While they often use the internet and front organizations to do so, in some cases it appears that laundered money has also been used directly to buy political influence in some countries.[50]

More direct evidence that democracy is under threat

The last Annual Report of Freedom House (2022) suggests "The global order is at a tipping point". The previous year (2021) marked the sixteenth year in a row in which the number of countries becoming "less free" exceeded the number of countries becoming "more free". 75% of the world's population now live in countries that became less free last year. These countries include core democracies such as the US and the UK.

More specifically, there is growing evidence that some of the *codified principles* supporting democracies are under threat. In a number of countries, not least the United States, efforts are under way to restrict the right of "one man, one vote" and also to impede the orderly transfer of power[51]. An objective "free press" is increasingly subordinated to editorial control driven by ideological considerations. *Non codified* requirements are also under threat. Polls in democratic countries show a continuing decline in "trust in government" to record lows. As for the

[47] See Haidt (2022).
[48] Stanley (2022) argues that such tactics were first employed by the Klu Klux Klan in the US and only later spread to Europe.
[49] Snyder (2018).
[50] See Cooper (2021) and Bullough (2019).
[51] Stanley (2022) argues that "legal practices historically have enforced and perpetuated unjust hierarchies of value in ways that often go unnoticed". Consider Jim Crow laws in the United States, and more recent laws restricting the rights of convicted prisoners to vote. These laws largely affect prospective black voters in the US. In India, new citizenship laws are designed to discriminate against Muslims who do not have proof of citizenship.

need to show respect and restraint in dealing with political opponents, this is being increasingly replaced with behaviour more akin to tribal warfare[52].

If this last problem shows that Madison's concerns about factionalism were valid, there is evidence that concerns about the threat of fascism warrant even more attention. Right wing-nationalist parties have been gaining support in many democratic countries[53]. Moreover, the popular support for "strongmen" has been on the rise, with personalities like Trump, Bolsonaro, Modi and Orban all being (initially at least) freely elected. Resonating with the experience of Hitler and Mussolini, their electoral success was achieved in spite of campaigning actively against the media, elites and even democracy itself.

Closely related, there has been a gradual erosion of Karl Poppers "Open Society" and its replacement by "us versus them" thinking. And if this divides democratic societies at home, it also implies a much-reduced appetite for international cooperation[54] and a greater likelihood of international confrontation[55]. Ironically, the growing split between authoritarian regimes and more democratic ones could actually support the case for "strongmen", people thought capable of providing the strong domestic leadership needed to achieve victory. History teaches us that, in the pursuit of such nationalistic objectives, democratic rights and freedoms are often the first casualties.

D. What Policy Measures Might Help Restore Stability?

An initial point is that we require an *analytical revolu*tion in thinking about policy solutions to problems. Policy makers must accept that they are dealing with complex, adaptive systems and that each is nested in other such systems. This has two implications. First, within each system, policy will have both short term and long term effects and it is important to consider both[56]. Second, policies designed

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[52] See Levitsky and Zablitt (2019).

[53] The latest example has been the rise of the Sweden Democrats in Sweden. With organizational links back to World War ll Nazism, they became the second largest party in Parliament in the elections of September 2022.

[54] The success of the referendum in the UK on "Brexit" is a case in point.

[55] Such a confrontation between the US and China now seems extremely likely. Whether this extends to hostilities between a democratic camp and an authoritarian one (say, China, Russia, North Korea and Iran) remains to be seen.

[56] In contrast to Keynes' view that "In the long run we are all dead" consider von Mises who said "No very deep knowledge is usually needed for grasping the immediate effects of a measure, but the task of economics is to foretell the remoter effects, and so to allow us to avoid attempts to remedy a present ill by sowing the seeds of a much greater ill for the future."

to stabilize one system might easily destabilize another system. More economic growth to reduce the real burden of debt, at the expense of irremediable climate change, is not obviously a good bargain. Political scientists grasped these concepts decades ago and coined the phrase "wicked problems"[57] in consequence. In contrast, many (most?) macroeconomists use models that are simple, linear, deterministic and based on highly implausible assumptions[58]. Both longer term (unintended consequences) effects of policies and interactions with other systems are generally ignored. While new economic policy frameworks are now being investigated[59], a paradigm shift has yet to occur.

The principal threat to *economic stability* currently is the overhang of debt, both .private and public. Moreover, the contractionary effect of needing to service private sector debts will grow significantly[60]as interest rates rise in the face of rising inflationary pressures. To avoid this process ending in a cascade of disorderly bankruptcies, explicit and orderly debt restructuring is required. Unfortunately, numerous studies from the OECD[61] and the Group of Thirty (2018) indicate that the judicial and administrative mechanisms to do this are sorely lacking and need to be put in place. These shortcomings apply to household and corporate debt, but even more to financial institutions. The "too big to fail" problem has in some countries morphed into a "too big to save" problem. As for sovereign bankruptcies, basic principles still have to be agreed at the international level as to when this should occur. A further problem is finding agreement on loss sharing between traditional lenders (like sovereign and international institutions and creditors in advanced economies) and new Chinese creditors whose public/private status is not yet clear.

The sovereign debts of advanced market economies have also risen to record levels (as a proportion of GDP) in recent years, beginning to raise fears of "fiscal

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[57] For example, see Head (2018) for an overview. Head quotes (p.3) approvingly another political scientist who states "Every problem interacts with other problems and is therefore part of a system of interrelated problems…a mess… The solution to a mess can seldom be obtained by independently solving each of the problems of which it is composed".

[58] For particularly vitriolic assessments see Buiter (2009) and Romer (2016).

[59] The Institute for New Economic Thinking (INET) was set up by George Soros with this ultimate purpose in mind. A project established in 2010 at the OECD, called New Approaches to Economic Challenges (NAEC), had a similar objective. Both INET and various student groups have been actively trying to change the content of economics courses at universities. See de Muijnck and Tieleman (2021).

[60] This is the Keynesian "paradox of thrift". As everyone cuts expenditures to service debts, overall saving falls.

[61] See for example OECD (2016),

dominance"[62]. This threatens higher inflation on the one hand, or explicit cuts to expenditures on the other if the former threat is to be averted[63]. The probabilities of both will rise as interest rates go up in response to resource constraints and rising inflation, as described above. Either could lead to social unrest and become a threat to democracy. As well, constrained governments might struggle to make the investments required to stabilize the environment or prepare for future pandemics. In these circumstances, a better alternative might be significant tax increases, targeting consumption in particular. Different countries might choose different taxes, but higher taxes on fossil fuels, property, and taxes directly on consumption would generally be favoured. Cuts to tax expenditures, often subsidizing special interests, would also have high priority.

It is important to recognize the ineffectiveness of tighter monetary policy in addressing inflation concerns when fears of fiscal dominance are widespread. Higher interest rates on government debt exacerbate funding problems which can further stoke inflationary fears. Moreover, the likelihood of this happening rises as the duration of the outstanding debt becomes shorter. Unfortunately, programs of Quantitative Easing (QE) in Advanced economies have significantly increased that problem as central banks have bought-in longer term debt and paid for it with newly created overnight money[64]. As well, the same programs almost ensure that central banks will face operational losses in coming years that will further swell government deficits[65]. In contrast, such fears would be alleviated by tax increases. Moreover, tighter monetary policy could reduce investments that need to be encouraged, not least investments in "green" energy that are highly capital intensive. In contrast, restrictive fiscal measures could directly target consumption.

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[62] When debt levels rise too high, private sector purchasers begin to worry about debt service and repayment. Unwilling to pay higher interest rates, governments increasingly rely on finance from the central bank ("fiscal dominance"). Observation of this practice can send inflationary expectations and interest rates higher still. A currency crisis often emerges. See Sargent and Wallace (1981) and Bernholz (2006), also cited above.

[63] Evidently, expenditure cuts could be avoided through increases in the efficiency of production of government services. Even if pursued with vigour and success, this would take a long time to provide significant results.

[64] Another complication has been the growing reliance of some governments (notably the UK) on TIPs for financing. Thus, as rates rise with only lagged effects on inflation, governments are hit by a "double whammy".

[65] An interesting further complication is that, as longer-term interest rates rise, central banks who have done QE will suffer significant mark-to-market losses that will generally far exceed their available capital. Since central bank liabilities are the medium of exchange, they can never go bankrupt and do not need capital. Nevertheless, the optics could help erode confidence.

The threat to *political stability* in democracies is amplified by feedback effects and complex social processes. These should be identified and resisted, especially the disruptions intended by those (both domestic and foreign) that profit from social unrest and political upheaval. However, the principal and underlying problem seems to be growing inequality, whether of income, wealth or opportunity. Alleviating this will require significant changes in both private practices and public policy.

As to the former, the relative compensation of senior management needs review, as does the issue of share buybacks[66] that often benefit senior management while weakening future corporate profits and resilience. The nascent movement towards replacing shareholders' interests with stakeholders' interests should also be encouraged. As for governments, restoring the trust of average citizens will require legislation promoting equality in various ways. Changing the tax system to make it more progressive, to cut unfair corporate subsidies and to reduce international tax evasion would be desirable, as would measures to restrain corporate lobbying.

Governments must also contemplate higher minimum wages. Training and life time learning should be significantly enhanced, and the formal education system reviewed to ensure it meets modern needs. Finally, insolvency laws need to be reviewed and made more debtor friendly in many countries. Continuing to "bail out bankers" does not increase the government's credibility when it comes to reducing inequality and promoting the "fair" treatment of ordinary citizens.

All of these suggestions to enhance economic and political stability, not least the desirability of raising consumption taxes, will be very hard to sell politically. *Voters* will instinctively resist suggestions that affect their short-term life style, even if their longer-term best interests imply they should do so. The challenge is to convince them that we are transitioning from an "age of abundance" to an "age of scarcity" implying there is simply no alternative to making hard and unpleasant choices. The willingness of most citizens in most democracies to make serious sacrifices in the face of the covid-19 pandemic gives some cause for optimism. The nationalist sentiments evoked by international conflict might also elicit voter support for putting public policy on a "War-time footing".

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[66] See Smithers (2019) who argues that the "bonus culture" has many downsides.

However, voters are not the only people who need to be convinced. Measures to alter distribution will be instinctively resisted by the *rich and powerful*. Somehow, they must be convinced that change is in their own best interest. Walter Schiedel (2017) has documented historically how great inequality has always been swept away by one of the Four Horsemen of the Apocalypse. Better then to accept the need to limit such extremes than to resist such limits and lose everything. Of course, even if this logic is accepted, action will not follow if individuals feel they can be free riders in this process.

The final group that needs to be convinced and engaged are *politicians in democratic countries*. Without such leadership, the convictions of both voters and the powerful are unlikely to be swayed. Today, at least for some politicians, re-election seems to be their central motivating force. Somehow the moral element of leadership must be restored[67]. Politicians must strive to do what is in the public interest, and this is particularly so when there is a constituency for policies that are "dangerously foolish."[68] A denial of the need to face up to the urgency of current economic, political, environmental and public health challenges would seem accurately described using such pejorative terms.

Without greatly renewed efforts, the minimal reforms required to stabilise the economic system in the face of expected supply shocks might not be forthcoming. If this is the case, the future could hold either debt deflation or high and lasting inflation, or both in one order or another. Whatever and whenever the economic shock hits, it also seems unlikely that our democracies will have been reformed to a point that their resiliency has become unquestionable. In such an environment, concerns about the environment and public health might also fall by the wayside. With all this at stake, the arguments for policies to help our economy adapt to a possible new age of scarcity would seem overwhelming. At the least, we need insurance against cascading risks that could prove existential.

[67] For example, in recent years there has been a truly worrisome degree of support, from within their own parties, for Boris Johnson (in the UK) and Donald Trump (in the US). Both men were well know to have committed immoral and possibly even illegal acts, but their colleagues felt their personal chance of re-election was greater under their leadership.

[68] This is how President Kennedy defined a statesman in his book "Profiles of Courage".

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