National Institute of Economic and Social Research

RECONSTRUCTING MACROECONOMICS AFTER COVID-19: NOTES FOR A FIRST DRAFT

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National Institute of Economic and Social Research

NIESR Policy Paper 022

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Date: 20 October 2020

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This paper was first published in October 2020

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Abstract

As a discipline, we have contributed much in response to the global challenges posed by the COVID-19 pandemic. But we also have much to learn about what it implies for our profession. And there are key actions—particularly on fiscal, monetary, global forecasting, prudential, sovereign insolvency, and global early warning—that are needed now.

Acknowledgements

Thanks to Jagjit Chadha, Hande Küçük and Ndongo Samba Sylla for insightful comments. The views expressed in this paper do not necessarily reflect those of the National Institute of Economic and Social Research.

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Introduction

After a decade, little of the consensus of why or how the Global Financial Crisis (GFC) happened or what we would have done differently if we had a do-over from 1995 reflects economics that was not already well-known pre-GFC. The core problem then was not the "inadequacies of economics"; it was inadequacies in the implementation thereof.

Whatever happens from here on, that should not be so for the COVID-19 Pandemic (C19P). More than a debate over which letter best projects output—with V reflecting our default mean-reversion and immediate presumption of the familiar—C19P points to a number of assumptions in core macroeconomics that need to be reconsidered. With the virus still raging, we have more to do than mull blueprints for the post-C19P world.

Thus, this piece is not a comprehensive survey of the overall contribution of macroeconomics to policymaking for the pandemic. Instead, it is a focused frank gobbet-style "tour d'horizon" of core areas and issues we need to reconsider in light of C19P, and is intended to provoke debate on those matters rather than to settle them. In doing so, it is concrete, advocating directions of travel for the profession and specific conclusions for policy in several areas now.

That tour d'horizon comprises:

1. Scope of our discipline
2. Household savings behaviour
3. Fiscal time horizons, techniques, timing, transition, and take-off
4. Labour market analysis
5. Inflation target yardsticks and target credibility
6. Outreach by economists
7. The fallacy of composition in global forecasts
8. Global bank capital requirements and sovereign insolvency arrangements
9. Institutions of global economic crisis resolution
10. Global Early-Warning

1. Advanced World GDP can drop by a quarter in a quarter, not just (Greece) 4 years

This should not have come as a surprise to us. Output drops with SARS in 2003 pointed to elasticities of output to pandemic of that order of magnitude and there have been many other prior supply-induced-demand-shocks in the developing world implying similarly.

But we overlooked that evidence because core macroeconomics has long focused on place (has it happened in the G-7?) rather than phenomena (does it inform the core corpus of theory and policy preparation, even if it happened elsewhere?) Likewise, we have taken no interest in non-economic shocks notwithstanding that they may have huge economic consequences and that globalisation makes them both more common and bigger.

As a result, policy had to be designed for C19P "from scratch on the fly" in the Spring of 2020 at considerable cost to its coherence (see points 2-10 below). And the Spring global forecasts were badly off the mark—with the IMF Managing Director disavowing hers within weeks of their announcement by her Chief Economist. The subsequent July WEO update lowered projections for global output in 2020 by an unprecedented 2 percentage points relative to the Spring, followed by a partial upgrade for 2020 in the October WEO.

This was not "we did our best in difficult circumstances" because earlier evidence had been ignored. And nor were the adjustments mere "technical corrections"; core pandemic policy was misspecified on the basis of the Spring projections (see point 8 below).

C19P should cure macroeconomics of both forms of intellectual parochialism.

2. Household savings behaviour appears to have undergone a temporary regime switch

Standard Permanent Income Hypothesis (PIH) savings behaviour—anticipating consumption smoothing across temporary income shocks—has been evident in C19P. That is seen in elevated savings rates in those households which enjoyed temporary income gains from the pandemic, as well as in dissaving among adversely affected low-income and non-credit constrained households—especially in the latter case as exceptional fiscal support for firms and households was withdrawn and duration limits on eligibility for standard unemployment insurance (UI) expired (see point 3).

But that has been dominated in aggregate by the behaviour of households whose income streams were unaffected, including thanks to exceptional fiscal support while those were in place.

Such households increased savings in C19P either for precautionary reasons and/or reflecting their response to the jump in "all in" price of goods the production, purchase, or consumption of which required physical proximity. That jump reflects the addition of a perceived and actual "health risk cost" to the sticker price and cost of production of affected goods and services.

The evidence that falls in consumption amongst those households were not "across the board" but were concentrated in goods and services the consumption or production of which required proximity suggests that those higher savings reflected not generic precautionary concerns but specifically a response to the jump in "all in" prices.

Thus, households whose income streams were unaffected appear to have treated the jump in "all in" prices as conceptually temporary even if it was expected to last for over a year. And thus consumption of affected goods and services was not simply switched to unaffected goods and services but was largely postponed (saved) until its all in price fell back to normal.

If so, savings behaviour may best be thought of as having undergone a regime switch during C19P. Whereas we typically model aggregate savings behaviour with the price level or output as the residual, the dominant household behaviour in C19P may instead be anchored by perceptions of "normal" prices, with saving rates as the residual.

This is more satisfactory than conceiving of it as a variant of the constrained consumption typical of planned economies—because neither consumer prices nor production were controlled. So there was nothing to stop spending switching to other items away from items the consumption or production of which required physical proximity. That it did not do so therefore points to a switch in autonomous savings behaviour rather than to constraints.

And indeed, this savings regime switch may have signaled the beginning of C19P in macroeconomic terms and when it switches back, that will signal its macroeconomic end.

Just as the switch was not linked to a single epidemiological milepost or to lockdowns but largely reflected spontaneous risk-averse behaviour by households, so the switchback is unlikely to be linked to simple epidemiological or policy events either.

But where the switch was generally sudden, discrete, and obvious, switch-back may be none of those, with the virus able to overwhelm one-off lockdown combined with track-and-trace, thus forcing cycles of national lockdowns—a risk the second national lockdown in Israel and expert calls for the same in the UK and elsewhere underscores. And initiatives to accelerate switch-back such as "Eat Out To Help Out" may backfire if they turn out to constitute super-spreader events.

Disaggregation of elevated aggregate household savings data into the three main groups of households—households enjoying temporary pandemic disposable income windfalls in C19P, where PIH savings compounded savings regime switch behavior; households whose disposable income was unaffected during pandemic, where savings regime switch behavior occurred; and households whose disposable income fell in C19P, where PIH savings behaviour was offset by savings regime switch behaviour—will be needed to assess if "regime-switch" indeed dominates aggregate savings developments.

Pending that research, scepticism remains warranted about how exactly to interpret the "new" and officially favored current indicators of consumption trends, including where these underlie recent upward revisions to official forecasts for 2020, including the IMF October WEO, with latest data and virus resurgence confirming that need for scepticism.

3. Given that switch in the household savings regime, the macroeconomic policy response to C19P had to be big and primarily fiscal, and it was

As C19P emerged, soaring household savings were accompanied by parallel temporary corporate dissavings (losses) and losses of income among adversely affected households, with no associated increase in ability of either to carry debt.

So the fiscal rather than the monetary or the financial sector instrument was appropriate to intermediate the transfer of these household savings to stressed corporates and households.

Hence the enormous fiscal deficits worldwide and consequent jumps in public debt in 2020 (see Tables 1.1 & 1.2 here). Absent those, global output losses in 2020 would have been much greater, including via mass defaults and global financial sector crisis. In this way, overall pandemic risk migrated from the private to the public sector.

That said, there is much to consider about exactly how this was done and is to be undone.

Time horizon. With bread lines sprouting, 30 million people in the US losing health insurance immediately, and need for a new administration for the UK Jobs Retention Scheme, the adage "In the long-run, we're all dead" has to be updated to "people need help in days" and as does the convention that fiscal orients to trend with monetary stabilising. Core fiscal policy also has to address what is needed over a horizon of days, and this would have been necessary even had monetary policy not been at the effective lower bound.

Technique. In principle, the distinction between support for firms and labour via separation and enhanced UI versus furlough retention (US vs Europe respectively) is more form than substance. The key exceptions are: that the former deprived millions of their health insurance (see time horizon above); that whereas furlough payments were only available to those put on furlough, UI supplements were not thus grandfathered but were also paid to those who were unemployed anyway; and that the former approach generates much higher officially-reported unemployment rates.

Otherwise, both approaches temporarily deliver greater benefit eligibility and reservation wages, both allow continued job search in the context of diminished vacancy rates, both maintain worker-firm relationships (the former informally, the latter formally), and both are subject to "fiscal cliffs" at the point where they are terminated.

The US cliff was in July, with no agreed resolution to this yet in prospect. And following the recent downgrade of the UK Job Retention Scheme to the Job Support Scheme (JSS), there are a pair of cliffs in the UK (one in January as the retention bonus expires, and another at end-May as the JSS expires, with other cliffs added under the new local furlough plan.

Thus the relative merits of these two approaches turns less on principle than on the parameters applied in practice under each approach. So for example, UI supplements in the US might have been set relative to state jobless and/or median wage rates instead of flat rate $600 per week (to diminish occurrences of household disposable income rising above pre-pandemic levels thanks to excessive benefit supplements), and different salary caps, tapering, part-time, and furlough requirements could have been set in the UK. In addition, there would have been advantages to making eligibility for job support contingent on shocks to individual firms' value-added rather than via firm self-selection (putting workers on furlough).

In either policy context, ex post discretionary conversion of support loans into grants outside of formal insolvency procedures just invites lobbying, corruption, and rent-seeking.

Timing. With the fact, scale, and timing of the initial household savings regime switch generally obvious, there was little doubt about when to initiate fiscal support or on what macroeconomic scale.

But the switch-back process is likely to be staggered and reversible both at national level and by region and by goods and services, so it is less clear exactly how and when to retire fiscal support. Thus, timing should not be tied either to pre-determined date nor to an epidemiological milepost but to the final switch-back in the savings regime. And rather than cutting benefits or (as in the US) a chaotic withdrawal of support—which among other things could undermine good reforms in the monetary framework (see point 5)—conditionality attached to the schemes should stem fraud and abuse in the meantime.

Transition. Adjustment to post-pandemic resource allocation has to be balanced against countercyclical policy objectives in mid-pandemic. In general, concern that fiscal support should be withdrawn early to stop it from "locking pre-pandemic resource allocations in place" are misplaced until the final savings switch-back has occurred. In the meantime, job search anticipating post-pandemic relative prices can continue, even if vacancies are negligible. However, in the UK, the imminent possibility that the economy may also have to adjust to a surprise "no-deal" Brexit, including a likely associated depreciation of sterling, raises the premium on factor mobility and so qualifies the case to freeze factors of production in place via furloughs to deal with the "temporary" shock of C19P.

Take Off. Post pandemic, negative rates across sovereign yield curves and need to support resource adjustment and recovery imply that the core conceptual anchor for medium-term fiscal frameworks should not be debt ratios nor debt service ratios (which are dominated by old debt terms and readily manipulated via zero coupon bonds, and so are poor proxies for the price of debt at the margin). Instead, the framework anchor should—as it should have been pre-pandemic—be the impact of the fiscal stance on the supply side and trend growth and specified with respect to the primary rather than overall balances or debt ratios (see point 5).

For the EU, getting all these fiscal matters right matters far more than any particular role of EU institutions in delivering them because substance matters more than form in securing prosperity and stability.

4. Our core triptych of unemployment concepts—temporary/permanent, structural/cyclical, voluntary/involuntary—assumes stable unemployment insurance structures

C19P saw these insurance structures subject to many sudden, large, erratic, and ultimately temporary shocks, confusing our conceptual triptych, labour market data, and standard expectations of labour market behaviour, all compounded by shocks to lags in reporting.

We may ultimately be forced to infer how households interpreted their employment status during the pandemic from their individual savings behaviour in it (see point 2), and after the fact characterize aggregate unemployment on that basis.

In the meantime, the basis for the exceptional fiscal support provided is that the bulk of potential job losses were temporary—pending the switch-back in the savings regime. The fact that the Spanish Flu, which began in 1916 and only ended in 1920, four years later, underscores the weight that is being put on that assumption and the need for an overall policy strategy on the pandemic which minimizes that duration (see point 6).

But huge as the unemployment/furlough numbers have been, the employment shock will be greatly amplified if fiscal support is withdrawn before the savings regime switches back, including as eligibility for standard UI runs up against duration limits (see points 2 and 3).

More broadly, standard macroeconomics has not hitherto incorporated notions of "essential workers". But this distinction has become paramount and implies that macro (and not just micro) needs to reconsider its conceptual treatment of race and gender.

And with internal borders appearing/reappearing/potentially reappearing—including via traveller quarantine requirements within the EU, Australia, and the US—in order to contain outbreaks, we should henceforth be alert to a key pandemic proviso to otherwise still settled wisdom that currency areas should have fully integrated labour markets.

5. Inflation target yardsticks and credibility

As well as big temporary shifts in spending composition relative to CPI baskets, the pandemic also added a wedge—perceived risk of infection, which varied considerably across products and time—between sticker prices reported by firms in the CPI versus the "infection risk included" (all in) price paid by consumers (analogous to the tax wedge between product wages and take home pay).

So, for example, as prices quoted for flights slumped (lowering reported CPI), their all-in (unreported) prices "paid" by consumers jumped.

As relative price changes, policymakers setting the monetary stance should "look through" both the reported price drops and the temporary all-in price hikes as well as the permanent relative price changes pre- to post-pandemic and C19P distortions to the GDP deflator.

To do so, they should consider for policymaking purposes a measure of core CPI excluding items for which consumption volumes were shocked by C19P. Thus, rather than a standard trimmed mean measure which excludes outlier price changes, this measure of core should exclude goods and services subject to outlier volume changes (in either direction) in C19P.

This new measure—which could take various forms—would be narrow but undistorted by the pandemic and would likely confirm that though the initial C19P shock (as for SARs) was disinflationary, it was so by less than implied by headline CPI. If so, that will imply that recovery when secured by the final savings regime switch-back (see point 2) will be moderately net inflationary but also by less than implied by headline CPI.

Other leading indicators informing monetary policy also occluded in C19P, notably in the real economy, inflation expectations, and labour markets (see point 4) but also the monetary aggregates. Contrary to some expectations, cash in circulation jumped as social distancing began despite collapsed consumption and shifts to remote means of payment. The relative roles of anticipated increased "shoe-leather" costs of getting to ATMs, loss of confidence in banks, and lower interest rates will have to be decomposed to understand this. Broad monetary aggregates also surged, the corollary of the switch in the household savings regime (which boosted demand for other assets also, including stocks, and housing) with none of these indicating buildup in inflationary pressures, indeed the reverse.

But even measured by the correct "core" indices, the short-term impact of C19P was to aggravate the longstanding prior target undershoots by inflation-targeting central banks and to drive large swathes of sovereign yield curves negative by raising savings and lowering non-government investment worldwide (see point 2).

Both developments underscored need for inflation targets to be respecified in error-correcting terms as part of the post-C19P recovery policy packages. An announcement in exactly that spirit was made by the Federal Reserve in August—with welcome impact on inflation expectations despite need for further transparency and ongoing chaotic fiscal withdrawal by default (see point 3)—and even the ECB may soon follow suit.

And for now, the weakness of prices however measured—headline, core, trimmed value, trimmed volume, etc.—indicate that even as output in the G-20 has now recovered substantially above its pandemic trough, the remaining substantial weakness in activity relative to prior trend has its roots more in continued shortfalls of demand—as the savings regime has not fully switched back yet—than in supply chain and other supply constraints.

Furthermore, if macroeconomic developments in C19P indeed hinge on the switch and switch-back in the household savings regime, then inflation is not destined to emerge in the G-20 as pandemic ends.

That is because there is unlikely to be a "surge of pent up demand" by households, only a return of consumption to broadly where it would have been absent the pandemic. This is because the unanticipated jump in the stock of savings in 2020 during the regime switch is approximately balanced by perceptions of future liability to pay for the corresponding unanticipated public debt (Ricardian equivalence). Thus, only the anticipated "scarring" of C19P on trend GDP —and hence on anticipated permanent income—is likely to affect the level to which consumption returns post pandemic. Indeed, this "release of pent up demand" is also notable for its absence as SARS ended.

The greatest risk of a disorderly price level—in either direction—is if the withdrawal of fiscal support is asynchronous—in either direction—with the switch-back in the household savings regime (see points 2 and 3). And indeed, as prospects for an orderly extension of US fiscal support has receded in recent days, US inflation expectations have fallen back, negating the beneficial effect of the Fed's announcement of its error-correcting target.

The inflationary outlook in the developing world is less sanguine, however (see point 7), unless the global sovereign insolvency framework is substantially reformed (see point 8).

Central banks are well-instrumented to deal with any underlying inflationary pressures beyond such error-corrections that may emerge when the savings regime switches back permanently. In that light and congruent with maintaining fiscal support until then (see points 2 & 3), the Federal Reserve has counseled against reduction of exceptional fiscal support in mid-pandemic, a stance the Bank of England inexplicably derides as "the economics of Chicken Licken". But to stop any counter-inflationary rises in nominal interest rates from constraining appropriate post-C19P fiscal policy, fiscal frameworks should be specified on primary balances, not overall balances nor debt ratios (see point 3).

Otherwise, with fiscal rather than monetary policy in the driving seat for C19P, central banks had little need to break new ground conceptually and rightly did not do so, even as they found themselves closer to the effective lower bound on official interest rates and as some of them lowered their estimates of where that bound is.

But examination of the institutional implications for stresses in the market for US Treasuries in March as C19P emerged, building on analysis of similar stresses in late 2019, is urgent. Permanently shifting the Federal Government accounts to commercial banks would prevent the considerable "noise" of daily government transactions from compounding difficulties of reading and stabilizing the market in US Treasuries at such times of severe stress.

6. Standard forms of economists' communication with others failed

It was quickly clear to economists that the pandemic would exact enormous global mortality and output losses in the context of much uncertainty—including virus incidence in populations, as well as prospects for coherent government messaging, for a vaccine and its effectiveness, for anti-vax and other individual risk-averse behaviour, for herd immunity, for patterns of person-to-person and inter-species transmission, for long-term health damage and virus mutation, and for the availability, compliance with, effectiveness, and durability of testing, treatment, mask mandates, cycles of shutdowns, and distancing.

But amidst all that doubt, a singular policy certainty was also clear to economists from very early on: universal frequent mandatory testing (well beyond standard epidemiological track-

and-trace scale) to identify and isolate all asymptomatic carriers rapidly would put a decisive stop on all losses pending a fully effective, available, and adopted vaccine, whenever that happened and whatever else transpired until then.

And as a happy corollary, that stop-loss strategy would also avert need to calibrate policies on speculative and highly technically—let alone politically—contentious calculations on matters such as allowing young people to become infected or of dollars per years of life saved.

However, reliance on individual outreach efforts (heroically led by Paul Romer and lately backed by the Rand Corporation) to convey that singular strategic certainty to epidemiologists, the public, and policymakers, has proved utterly inadequate to the task.

For want of that stop-loss strategy being heard, the only places that it is being applied a year since the virus emerged is within the bubbles of some major sports leagues, an elite private college, and (albeit badly) the confines of the White House. And the only ways it has—belatedly—come to wider attention is the incoherently-sketched "moonshot" and the immediate confirmation of the infection of the US President.

The costs of this outreach failure are enormous—indeed globally macroeconomic in scale. And in the absence of the stop-loss strategy, it becomes harder as pandemic goes on to determine if job losses are temporary or permanent or cyclical or structural—and therefore whether exceptional fiscal support for wages and jobs should continue (see points 3 & 4).

The failure to convey the stop-loss message effectively partly reflects the dust-cloud of other messages that we also sent—some 6,000 and counting published economics papers on COVID-19, tracking new data and policymakers' every zig and zag and associated policy options, and emphasizing "Radical Uncertainty" a notion which, whatever its academic merits, also stoked generic scepticism of even the most thoroughly grounded advice.

Whereas we reflexively regard such output as evidence of our industriousness, value-added, and good intent, the fact that it has been both such a scramble and a "dust cloud" is also emblematic of how unprepared we were beforehand (see point 1).

Amidst that, failure to communicate the singular strategic certainty also reflected that in C19P, epidemiologists held—and hold onto—the megaphone. In the UK, at best a junior economist from the Treasury sat in on meetings of the Government's scientific advisory group (SAGE). So

the established mantra is "follow the science" where this is expressly understood to exclude economics.

But that exclusion is also partly on us. Non-economists reflexively tune out much of what we say because when we not are not talking to ourselves, we typically communicate with them via politicians and partisan-media-selected—and so disproportionately outlier—spokes-people, dueling partisan open letters from self-selected signatories, and via economists' opinion polls of doubtful design. Little wonder that in crisis, people look to other guides. And given our "dust cloud", it was not obvious to epidemiologists who exactly to call even when they wanted to consult on the economic implications of their work.

These outreach concerns do not require muzzling free academic debate among us. Instead, epidemiologists show us the better way. Rather than relying on officials or political or media-selected spokespeople to address the public, they formed "Independent SAGE".

Similarly (and despite our instinctive aversion to any collusion) we should form professional bodies of our own, not as academic clubs or think-tanks or offshoots of officialdom but as independent vehicles—to communicate strategic messages only on key issues, and speaking on the authority of the profession as a whole to the public, other professions, and policymakers in real time. This body would emphatically not supply "quotes on demand" for journalists as its prime task should be to stay on message.

And to the counter that all these challenges and the need for such outreach is "someone else's fault and problem", consider that our second-best literature and the Stackelberg Leadership model counsel that policy—including our own conduct—should be designed around the world as it is, not as we would like it to be. Thus, our core responsibilities as a profession should not end with our individual teaching obligations, journal publications, and tweets—and certainly not with memos to "the Minister"—but should also extend to addressing the public formally and directly in the name of the profession as a whole.

Though this initiative may be inspired by C19P it should not be limited to it. In C19P epidemiologists were key; next time it could be computer scientists, chemists, climate-or biodiversity scientists, antibiotic specialists, or others. We need to improve outreach by raising our game at our core (see points 1-10) and being more convivial across the board.

In short, we macroeconomists since Keynes' General Theory—and regardless of our individual opinions—have behaved as if our sole audience is "the authorities", as if they are—despite our

extensive government-failures literature and unremittingly disappointing personal experience—competent and well-intentioned, and as if any need for us to coordinate with other disciplines would take place through the offices of said competent well-intentioned authorities. All three implicit behavioural assumptions on our collective part proved spectacularly wrong with C19P and are all but certain to do so again.

Our strategic messages might not be heard or listened to even if we do organize to speak on our own behalf to multiple audiences not least because our "brand" has been badly tainted — including by our partisanship and the association of our profession with power.

But given the unique peril of C19P and the singular certainty on stop-loss, Paul Romer should not have been left to carry the banner alone while the rest of us carried on.

7. Our "when in doubt, defer" led to the fallacy of composition in global projections

Global macro forecasting in the Spring and Autumn of 2020 for 2021 and beyond had to address:

- that notwithstanding some countries mimicking each other, policy on containing the virus was so varied—with South Korea, China, and Germany at the determined end of the spectrum and the UK and US at the other end, with Sweden determinedly doing very little beyond closing schools and issuing (good) advice on personal behaviour;
- that announced dramatic economic policy on the virus was strictly time-bound everywhere—the fiscal cliffs (see point 3); and
- that, not least given populists, risks of chaotic policymaking on the virus abounded.

The forecasting response was to show, after sharp sudden falls, an immediate and not-far-off-complete global V recovery of output during 2020 across all the epidemiological policies and despite rapid withdrawal of huge macroeconomic support during 2020 everywhere.

So forecasts implicitly assumed that no epidemiological policies would fail, or if they did, that no successful cases would be reinfected and that no failing authorities would follow through on their preannounced time-bound withdrawal of macroeconomic policy support—the fiscal cliffs (see point 3).

This set of assumptions was made in those global forecasts even though no policymakers—populists or not—designed virus and macroeconomic policy in the Spring around the single strategic stop-loss certainty (see point 6) which was already understood at the time.

Such panglossian assumptions—giving full deference (benefit of doubt) to the authorities despite the smorgasbord of uncertainties (see point 7)—may make sense when forecasting a single country given uncertainty about which particular epidemiological policies are "right" anywhere and given that the "right" policies will be country-specific to some extent.

But for global forecasts—especially those constructed by adding up individual country forecasts, such as those prepared by the IMF—those assumptions are subject to "the fallacy of composition" because they anticipate no policy failures anywhere despite deep uncertainty about which set of epidemiological policies are "correct" anywhere.

This is not to single out the IMF. Rather the IMF is cited here merely because it typifies broader practice in the profession, though the fallacy of composition compounds longer-standing problems with the global (in)consistency of IMF forecasts.

Nor is this a matter of "forecasts are always wrong" or of "risks being skewed to the downside"—anyway a highly unsatisfactory (if now standard) forecast convention because it leaves unclear if the numbers provided are the median, the mode, or something else. Rather, the fallacy of composition meant that the global baseline for 2021 and beyond falls far short of the best understanding of the profession, compounding other key forecasting errors for 2020 (see point 1).

Furthermore, WEO projections after the Spring were subject to the same skewed risks and fallacy of composition issues: those in July lowered global output for 2021 by 0.4 percentage points and those in October lowered 2021 by a further 0.2 percentage points—with neither reflecting the ongoing chaotic fiscal withdrawal in the US (see points 2, 3 & 5), let alone the ongoing virus resurgence there.

And these fallacy of composition forecasting errors arise not only for the G20 but independently for the group of non-G20 countries as well.

Accordingly, outturns so far have been very unkind to such projections, and absent an immediate vaccine or other windfalls, further sizeable downgrades to global output levels projected for 2021 and beyond are all but inevitable.

Economics will have to reflect on how address such fallacy of composition problems in global forecasts not only for those which remain to be made before C19P ends but also for other global crises which may follow. This discussion of the macroeconomic lessons to be drawn from SARS suggests one way of doing so.

Even acknowledging the narrative as opposed to the numerical role of forecasts, we cannot simply continue the usual construction-by-adding-up countries, and for reasons outlined immediately below, the clarification in C19P-style contexts that "this is a conditional forecast" will not do either.

8. These forecasting failures undermined core global economic policy on the virus

Bank stress tests worldwide all rest on global macroeconomic assumptions, and the published IMF forecasts—even if quickly disowned by its Managing Director—are key anchors used by regulators in preparing their own assumptions for these exercises. Thus, as part of macroprudential policy, the Bank of England lowered its counter-cyclical capital buffer requirement to zero, and the US lowered community banks leverage ratio and is considering further such initiatives now.

Stress tests underlying such decisions typically examine scenarios one or two standard deviations below base case. But given that the global base case in the Spring was quickly recognized as significantly overstated for 2020 and the July WEO projections for 2021 were marked down further in the October WEO (see points 1 & 7), stress tests conducted on that basis in the Spring were significantly less stressful than financial regulators realized and they still are.

This error thus downwardly biased markets' and financial regulators' estimates then of need for capital strengthening and NPL workouts in response to C19P—a fault which income support and eviction, tax, and debt moratoria may have temporarily concealed.

This compounded pre-pandemic evidence that the Dodd-Frank and associated Basle III global bank capital requirements were anyway too low to address risk originating in the financial sector. And it adds to concerns that both the savings regime switch (see point 2) and

supportive fiscal and monetary policies (see points 3 and 5) have induced unsustainable global stock market valuations, thereby prone to disorderly correction.

Furthermore, there is need for close consideration at a conceptual level of the "appropriate" allocation of risk arising from global phenomena like C19P between households, firms, financial firms' capital, and public contingent debt—and what that implies for the "right" target levels of bank capital requirements. Such issues were completely overlooked in the analysis underpinning Basle III, yet a further instance of our profession's lack of preparation (see point 1).

The fallacy of composition errors also greatly understated the growth, debt, and insolvency challenges arising in the developing and emerging worlds. This is not only because forecasting errors for the G-20 undermined projections for the export market growth for non-G-20 countries but also because the fallacy of composition error is replicated for them as a group even controlling for exaggerated forecasts for their G-20 export markets.

Thus, these issues manifest everywhere including the immediate cases of Argentina, Lebanon, and Ecuador. And this is a concern for core macroeconomics once we reset a further aspect of our intellectual parochialism—passivity—by acknowledging an obligation to call out malpractice carried out in our name by global bodies and institutions we endorse even if countries subjected to such malpractice are not our own.

Thus, in the Spring of 2020 when large debt write-downs were needed to support growth, time was of the essence, and cost of borrowing for donors had fallen to zero or below in part thanks to the global household savings regime switch (see point 2), instead token debt service initiatives were all that was considered because, said those global projections, prospects were "not that bad" so "debt was sustainable".

More recent modest supplementary steps by the G20 and proposals by the IMF for reform of sovereign insolvency arrangements reflect that the fallacy of composition upward biases in the October WEO forecasts for 2021 and beyond persist. And these biased projections remain the grounds for the IMF to continue to reject an additional issue of SDRs.

While there is a case for non-G-7 countries facing these C19P predicaments to shield themselves somewhat with capital controls, this only pertains to those which already have them. For others, even talk of introduction now risks aggravating difficulties by further

encouraging capital outflows. This conundrum is a further cost of our profession's lack of preparation for events like C19P (see point 1).

The defense of the limited global policy response to the challenges that C19P raises outside the G-20 to the effect that any debt restructuring will be addressed if and when need materializes is speculative. It also overlooks that the existing convoluted restructuring architecture is set to be overwhelmed by the sheer number and scale of cases arising from C19P—with Zambia's request for suspension of debt service on Eurobonds a harbinger, And it overlooks that the fundamental metric guiding that architecture, such as it is, is debt sustainability not growth sustainability (a critical macroeconomic distinction that is elaborated here.)

And all these errors compounded other underestimates of the threat the virus posed outside the G-20, including ability to sustain lockdowns, and misconstruing the interaction of the virus with demographic structures and its impact on other medical challenges. And as well as the deleterious impact on their real performance post C19P, it will also greatly compromise their inflation outlook (see point 5).

The issue for economics is that the only time that bank capital requirements and sovereign insolvency arrangements have to work is in emergencies. Their underlying inadequacies and global forecasting failures profoundly compromised that. Consequently, these arrangements now face much greater challenges globally than those for which they were designed and for which their policy parameters were set in the Spring and the Autumn.

One way to transform sovereign insolvency arrangements that is predicated—as the post-pandemic world requires—on growth-sustainability instead of debt-sustainability has been detailed here, focussing on a fundamental upgrade to the IMF's core lending role.

9. Our designated global economic crisis institution—the IMF—is essentially sidelined

The work of the IMF in C19P has been deeply disappointing: it failed to anticipate (in actions and warnings) global pandemic vulnerability; it overlooked the fallacy of composition in its C19P WEOs with consequent damage to global capital and sovereign insolvency policy prescriptions; it opportunistically reduced transparency in the data it publishes in its WEO, though under duress this was corrected with the October WEO; it mislabeled the whole

phenemenon as "the great lockdown" in Spring 2020 (overlooking the dominant role of autonomous savings behaviour); and its "COVID-19 is an opportunity" messages were remarkably tin-eared.

But even moreso, amid the cacophony of its other messaging—compounding our own "dust cloud"—it has been completely silent on the single C19P "stop-loss" strategic policy certainty (see point 6).

Furthermore, its refusal to make a SDR issue is indefensible because this action constitutes the appropriate form of global assistance—a grant, not a loan—in C19P. And this step could readily have been designed to the overall necessary scale, to assist countries in proportion to relative need, and to exclude "rogue" nations.

Similarly inexcusable is the IMF's failure, a year into pandemic, to issue an analysis in the WEO or elsewhere of the core factor determining appropriate global macroeconomic policy settings: household savings behaviour (see point 2).

But more than all of these, the fact that its conditionality—the central purpose of which is to secure crisis resolution—has also been almost completely shunned in the midst of what is on various dimensions the greatest global economic crisis ever also warrants close reflection by our profession.

Despite gigantic global emergency balance of payments and fiscal financing needs in C19P, countries have almost exclusively borrowed only the limited sums from the IMF—upto 100 percent of IMF Quota (compared with 3,212 percent of Quota in the 2010 SBA for Greece)—available primarily under the conditionality-free Rapid Credit Facility. Few countries have drawn on any of the panoply of other pre-approval facilities (such as the CCL) specifically designed to diminish the paraphernalia of program reviews etc (see New Arrangements and Augmentation of Existing Arrangements here).

This is in part because household savings surged and fixed investment dropped worldwide, supporting affected countries' external balances and reducing need for external financing despite sharp drops of external inflows into local currency denominated bonds.

And where countries nevertheless resorted to external borrowing, they also preferred to rely on conditionality-free swap lines from the US Federal Reserve rather than the IMF.

That is qualified comfort because these swap lines were not made universally available—being at the discretion of the Fed reflecting its particular objectives and constraints rather than broader global or individual country need. And reliance on the Fed renders these critical global functions vulnerable to malign intent by the US authorities—a risk that has not been realized so far but only because this White House is unaware of it.

Thus, the sidelining of the IMF in C19P is not just a matter for it to ponder. And the rebuttal that "standard conditionality was not appropriate for C19P" concedes the critique.

Its shortfalls may originate in its obvious and core governance shortcomings. But those are not the concern here. Instead, the concern is that the conditionality and institution which we have backed to address global economic crises has played such a second-order role in C19P. And whatever the cause of that—whether malgovernance or otherwise—the question consequently raised for macroeconomics is whether the IMF as is should continue to enjoy our endorsement as the global economic crisis institution.

10. Timely Global Early-Warnings were given, and suppressed, again

It has emerged that an influenza-type pandemic was at the top of the list of risks assessed by the UK government in its 2019 National Security Risk Assessment and has been so for years. Yet despite this and SARS, when Covid-19 struck, neither the economics profession nor the UK nor the World nor the IMF was prepared.

This was not because, as rational expectations has long underscored, economics cannot predict the timing of crises, nor as epidemiology has long underscored, that hitherto unknown viruses will appear. As is evident, both professions are capable of assessing vulnerabilities and of war-gaming responses even when the timing of crisis and exact characteristics of new viruses are unknown.

Instead, lack of preparations, including stockpiling PPE and fully pre-developing economic policy responses to new viruses, reflects that global early-warning exercises are conducted in secret by governments and are suppressed.

Thus, when governments trade-off the case for such preparations against resources devoted to their publicly announced core policy programs—and any implication from such early-

warning exercises that those core policy programs are flawed—their desire to affirm their core publicly-announced policies always takes precedence.

So such as the National Security Risk Assessment call for PPE lost out to IMF-backed austerity in the run up to 2020, just as in the run-up to the GFC, warnings of financial chaos also lost out to the also IMF-backed credo of light touch regulation.

The solution to this bias is that global early-warning functions should be conducted outside of government, should not prioritize forecasting the usual business cycle but anticipating the greatest risks to life and global output, and these exercises should be directed primarily at the general public, not governments. They should be routine, should include fully worked war-gamed policy responses across the relevant disciplines for the top two or three global vulnerabilities (in C19P epidemiology and economics), and should be published immediately and supported by the sort of sustained formal public outreach activities which typically back the WEO. They should be conducted by independent but fully funded organisations established for that purpose with central banks providing models of how to reconcile funding with independence.

All this would allow the discipline of the public political process to be brought to bear on governments' choices of how to balance the urgency of pre-emptive policy action on global risks against their other core policy priorities. As the IMF is neither independent nor—in key respects and times—transparent, these tasks cannot be assigned to it. But governments, including via the IMF, may conduct their own confidential vulnerability exercises alongside.

Thus Global Early-Warnings are one of the vital issues for which we should organize effective independent outreach to the public in real time (see point 6). And one particular way of building such a global early-warning institution—with its national and international components—has been laid out here.

Endnote

Government failure was once an argument for small government. One way to think of our professional shortcomings highlighted by C19P and as outlined here is that the core failure in this crisis is that government has been too small.

If it happens that a vaccine soon appears, is fully effective and affordable, and is widely taken, then macroeconomics will compound all its other shortcomings revealed by C19P if we place a dummy for 2020 in all subsequent time-series analysis—thereby discarding everything there is to learn from it.

And simply tacking a covid-19 chapter onto the end of an existing macroeconomic textbook—a default step given the considerable costs already sunk in them—will not do either. This sets up the matter to be dismissed as a mere historical aberration once the pandemic ends, thus overlooking the core role of globalisation in the genesis and incidence of such global shocks and their implications for the broad sweep of core macroeconomic issues and practices (see points 1-10). We could, as Hayek wanted, have treated the Great Depression that way too.

But it would be worse than ironic if core macroeconomics is thus essentially unchanged afterwards despite our fundamental lack of preparation for this pandemic and our consequent lamentation throughout it that economics has largely—and at great cost to the world—played second fiddle.