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Covid-19 and the global economy: Plunging into the void

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- Economic forecasts must now be made totally outside the box of historical experience. This note addresses an essential building block of our next forecast for the global economy: how far activity could actually plunge in the months just ahead. Our new forecast, to be released in the days ahead, will build on the results of this exercise, as well as our assumptions about how the virus will progress and our assessment of the economic policy responses now gathering steam.
- To gauge just how hard economic activity could be hit by unprecedented European and US lockdowns in response to the worst global pandemic in a century, we separate essential from non-essential activity, and we consider the impact from both a supply or output perspective and a demand or expenditure perspective. There is enormous uncertainty in this exercise and the bands of uncertainty are wide. We conclude that it is entirely plausible that the level of GDP falls by 15-30% (non-annualised) on both sides of the Atlantic under lockdown.
- This does not necessarily mean that GDP will contract by this amount in Q2. The contraction in Q2 will depend on when the lockdown begins, how long it lasts and how quickly the economy starts to recover post-lockdown. Here we make some preliminary guesses that will be refined in our forthcoming forecast publication. Much of continental Europe is in lockdown already and this could already mean Q1 sees a contraction of 4-6% qoq. The UK and US are lagging and the impact will be more concentrated in Q2. If activity under lockdown – 15-30% below normal – only persists for a month before the virus begins to ease and activity fires up again, Q2 GDP might only decline a further 10% qoq or so in continental Europe and the US. At the more pessimistic end of outcomes with a more persistent and deeper lockdown, GDP could contract as much as 25% qoq in Europe and the US.
- An economic shock of this magnitude has the potential to have profound ramifications for the labour markets on both sides of the Atlantic. For both Europe and the US we present estimates for the increase in joblessness assuming the normal historic relationship between growth and unemployment (Okun's law). Such output losses could mean job losses potentially in excess of 15 million in the US and possibly approaching that number in Europe. However, these estimates do not take account of the policy responses that are being designed to shield the labour market or the prospect for a short shock that allows firms to hold onto their workforces through Q2, which could both help to significantly lessen the rise in unemployment. We will follow up shortly with our thoughts on the persistence of the shock and in turn what that means more broadly for economies beyond Q2 and the policy outlook.

Introduction

A week ago, in the wake of news that China had reported a much greater drop in domestic spending in January-February than had been expected, we wrote that the global economy was moving into a severe recession and that Europe and the US would record the largest quarterly declines in GDP since WWII[1] . We also wrote that such projections are a rapidly moving target and the range of uncertainty surrounding them is tremendous. With another week of developments on the Covid-19 "war front" now behind us, we have sharpened our pencils and tried to get a better basis for understanding just how large the plunge in activity could be in the near term. News that entire countries and major US states are going into lockdown or something close to it has changed the picture significantly. These developments and our calculations of their effects now take us far outside of the box of historical experience.

In what follows, our focus is on the prospects for global GDP in the near term—namely how big the initial hit and how much GDP could drop in Q2. Our central expectation for now (to be refined in a forthcoming forecast update publication) is still that recovery will begin at some point in Q2 or Q3, fuelled in part by massive fiscal stimulus. As the policy picture clarifies in the days to come, we will present a more complete projection, including a range of potential outcomes for GDP over the year to come beyond Q2. In presenting our Q2 estimates for GDP losses in the euro area and the US, we consider three scenarios, one entailing recovery beginning by sometime in May, a second with recovery delayed one month until June, and a third with recovery delayed until July.

We begin with the relatively good news, an update on evidence that the picture is finally beginning to improve in China, including signs that economic activity is beginning to normalize as the virus has apparently been brought under control there, with Korea possibly to follow, and Japan weathering the storm relatively well so far.

Next we turn to Europe, where the tempest is now raging. As the number of deaths in Italy has risen past that recorded in China, further containment steps are being taken with the shutdown of all nonessential business. With the increasing likelihood that such steps will be taken more broadly across the continent, it is possible that the level of GDP in the Euro Area falls in Q2 by between two and four times the 6.5% (q/q) drop in our most recent forecast now only a week old. Depending on the severity of the lockdown and how long it persists, European economies could see GDP could contract 10-25% in Q2, after falling as much as 4-6% already in Q1.

We conclude with the US, which has lagged in terms of the spread of the virus but is now clearly into the acceleration phase with cases rising quickly in a number of regions around the country. Our estimates suggest that the level of GDP could fall by nearly 10% to as much as 25% in Q2 depending on when the virus peaks and recovery starts. The smaller number (which could imply around a 30% annual rate of decline in GDP in Q2) is diminished significantly by the assumed earlier peak in May with the economy beginning to expand again well before the quarter is over. The larger drop (a 68% annual rate of decline) reflects in part the implications of a

1 See "Impact of Covid-19 on the global economy Update 2: Severe recession", DB Special Report, 18 March 2020

recovery that is delayed until after the quarter is over.

China

As the first county to confront the Covid-19 virus, China offers one illustration of the economic effects of an assertive containment strategy. The province of Hubei was locked down on January 23 – and Wuhan remains so today. We expect that the province's GDP will decline by half in Q1 versus the prior quarter. Outside Hubei, the country experienced a combination of government-enforced (the LNY holiday was extended by a week) and individual/collective social distancing. Retail sales fell 20% (y/y) in Jan-Feb and industrial production was down 13%, indicating that even where activity wasn't completely locked down, it was dramatically reduced.

By mid-February, though, as the epidemiological data showed an improvement, people began to return to work and the shops – encouraged by the government. This was only three weeks after the shutdown and a month after the epidemic became public knowledge. High-frequency indicators of economic and social activity suggest that this gradual normalization proceeded reasonably swiftly until early March when progress seems to have stalled. A significant number of people seem unprepared as yet to assume the crisis is over, while the "second-round" effect of a drop in exports to the US and Europe may be beginning to impact the economy already. Our expectation, last week, that most workers would be back at their jobs by some time in April – the registered unemployment rate rose only 1pt in Jan/Feb – seems to have been too optimistic. That expectation led us to forecast a 9%q/q drop in GDP in Q1 (to be down 5%yoy) but we now expect Q1 GDP to fall 10-15%q/q.

But the sequencing – a dramatic decline in activity in short order as the epidemic spreads followed by a strong rebound as activity begins to normalize – continues to look reasonable. China is much less dependent upon external demand compared to 2008, for example, so while a decline in exports will weigh on Q2 activity, the rate of expansion of GDP will depend far more on how quickly Chinese consumers return to their jobs and to the shops.

Europe

Broadly across Europe, governments have moved to maximum containment to flatten the "epi-curve" and minimise the threat of the coronavirus overwhelming healthcare systems. Over the last 10 days or so, much of the European economy has gone into lockdown, to greater or lesser degrees. Each day sees more official containment measures announced, increasingly strong messages from governments to comply with strict social distancing advice and increasing incidences of businesses confirming the shutdown of activity. Even in the UK, where the government strategy has been one of delaying the spread of the virus rather than containing it, the actions and tone of the government are shifting rapidly towards containment.

The realities of economic activity under lockdown feel much more profound than what we allowed for in our sharply downgraded growth forecasts last week. Pre-virus, we expected the euro area and Germany to expand about 1% in 2020. Last week, we foresaw contractions of 3-4% in the euro area and 4-5% in Germany. In the current exercise, in line with our US colleagues we have conducted a scenario analysis to judge the degree to which economic activity could decline in an economic lockdown scenario. The basic idea is to differentiate between essential and non-essential activity. There is an outline of this high-level exercise in the US section below. Like our US colleagues, we have approached this exercise from both the supply (output) and demand (expenditure) perspectives. We have done this for the euro area, Germany, France, Italy and the UK.

We conclude that it is entirely plausible that economic activity falls as much as 15-30% in a lockdown scenario. We don't find appreciable differences between the output and expenditure approaches or across countries. We warn that the level of uncertainty in this exercise is enormous. The situation facing economies is unprecedented and very difficult to predict. The width of the band tries to captures the uncertainty. Our point is simple: a very substantial decline in activity across Europe is absolutely plausible.

Italy is at the leading edge of this crisis. Within the last week or so, the ramifications for the economy from lockdown has started to become much more visible in the daily energy consumption data. If the level of energy consumption remains unchanged at the level of late last week, consumption would fall about 15% qoq in Q2. However, business consumption is likely to fall further, deepening the contraction in energy in Q2. Large rates of contraction are entirely plausible.

Impact on Q2 GDP estimates for Europe

To be clear: this is not a forecast that GDP will contract by 15-30% in Q2. This was an exercise to judge how far economic activity could conceivably fall in a lockdown. The actual performance of GDP in Q2 will be a function of the precise timing of the implementation of lockdown – economists don't often think about activity from such a granular perspective, but in this situation whether lockdown occurs a week earlier or a week later matters considerably to the calculation of GDP growth in a given calendar quarter – the extent of the lockdown – for example, at this point we think there is more manufacturing and construction still taking place under the German lockdown, despite appearances and tone, than in Italy – how long it persists and the speed with which it unwinds. If total lockdown only persists for a few weeks, the impact on Q2 GDP will be less than this.

Broadly speaking, if lockdown at its worst only means a 15% drop in activity and this degree of lockdown persists until mid-April before economies very gradually power back up, Q2 GDP might "only" contract by 10-13% qoq. This is the optimistic end of the spectrum of possibilities. If the lockdown means a 30% drop in activity that persists until May, Q2 GDP could fall 20-25% qoq . That is the more pessimistic end of the spectrum for Q2. Anything in the 10-25% range is therefore possible for Q2 GDP contraction among the euro area economies, but there will also be a large decline already in Q1. Because the UK is lagging slightly in terms of the virus and implementation of lockdown, GDP could be affected less in Q1, but the range of contractions in Q2 would be more like 20-25%[2] .

Impact on unemployment in Europe

In the coming days we will conduct a more thorough assessment of the European labour market outlook under the virus crisis and how well the national labour market shock might be shielded by the policy response. For now, we show a simple illustrative statistic. If there was a persistent 15-30% drop in economic activity, and if the historic (pre-GFC) Okun coefficient of 0.4 were to hold, there could be an 6-

2 This section focuses on Q2. However, bear in mind that lockdown is beginning before the end of Q1. Even though it is beginning late in Q1, the extent of the shuttering of activity will still likely have a significant bearing on the performance for the quarter. It is possible that Q1 GDP contracts by 4-6% qoq.

12pp increase in the euro area unemployment rate, all else unchanged. This would push the euro area unemployment rate as high as 13-19% versus a high of 12% post-GFC. And in the UK, we expect to see a similar rise in the jobless rate, with the unemployment rate rising to somewhere between 6% to 15%, given the wider confidence bands on Q2 growth.

There are reasons to think this might exaggerate the impact on joblessness: there is evidence of the Okun coefficient declining post-GFC; the virus shock could be short and encourage firms to hoard labour in anticipation of a strong recovery in H2; the policy response is trying to sustain employment, etc. That said, we need to avoid complacency. Cross-country differences could be stark. Germany has a well-established and effective short-shift labour market policy (Kurzarbeit) and hence a much lower Okun coefficient. Even with a 20% drop in economic activity, the Germany unemployment rate might only rise 3-4pp. On the other hand, some member states like Spain have more cyclically sensitive labour markets because of the higher incidence of temporary employment. In the GFC (2007-2010), 80% of the rise in euro area unemployment was due to Spain. That was equivalent to 3 million people made jobless. The Spanish unemployment rate increased over that period from about 8% to 20%, and rose further to around 27% during the sovereign debt crisis. There is also a technical/statistical issue. Persons only count as unemployed under the standard ILO definition if they are ‘looking for work’. The virus will not permit this. Therefore official (ILO-based) statistics could under-record the rise in unemployment.

US

To estimate the potential negative impact of Covid-19 on US GDP in the months ahead, we assume that half of the country (in GDP terms) is hit severely with full shutdown of nonessential business and full stay-at-home orders (though enforced significantly less rigidly than in China). The other half is hit, but significantly less severely. This division is based on classifying as “severe” the fourteen states now recording at least several hundred coronavirus cases based on the most recent Johns Hopkins CSSI real time data map. These states include CA, WA, NY, NJ, PA, CT, MA, FL, GA, TX, LA, IL, MI, OH, CO. These states account for about two-thirds of US GDP. Given that a number of these states are large with significant areas that are likely to be less severely affected, we assume that half of the country (in terms of GDP generated) will face severe measures and the other half will face measures that are roughly half as severe in terms of their impact on GDP.

We have made estimates of the potential loss of GDP from both the output (supply) side and the expenditure (aggregate demand) side under assumptions laid out below. The results of these calculations point to a hit to the level of GDP on the order of -20%, with a likely range of plus or minus 8%. We translate these estimates into potential Q2 GDP growth projections under alternative assumptions about the persistence of the virus in the US at the end of this section. We emphasize that there is considerable uncertainty around these point estimates and therefore we prefer to emphasize the potential ranges of estimates that come out of this analysis. As we will show, the entire plausible range is several times outside of anything experienced in post-World War economic history.

Supply/output side estimate:

In the severely impacted states, we assume that all “nonessential” activity and significant portions of retail and manufacturing activity are shut down.

Nonessential activity, as defined by New York and California include restaurants, entertainment, recreation, accommodation, and other/personal services. The gross output of these sectors is $1.8tn. Half of this is restaurants/food services, which we assume is reduced by only 70% given significant take-out activity to supply food to households. This brings the total loss in gross output of these sectors to $1.3tn. We assume that 50% of the gross output of non-food and beverage retail activity is cut (for a loss of $1tn) and 30-60% of manufacturing output (loss of $1.9-3.8tn). The degree to which manufacturing activity declines depends on the duration of the shut-down, with more firms closing down the longer the overall disruption persists.

Under these assumptions, total lost output comes to $4.2-6.1tn. This loss is in terms of gross output, not value added; that is, it includes lost output by the sectors of the economy supplying these nonessential sectors, etc. As a percent of GDP ($21.5tn in 2019), the loss amounts to 20-28%. If we assume half the country takes the full hit and the other half 50% of this hit, the range diminishes to a decline of 15-21%.

Demand (expenditure) side estimate:

To make a similar calculation on the demand side, we walk through the spending side of the national accounts and make the following assumptions about how each category in the accounts is affected. In this list, the numbers are spending totals in trillions of dollars; we also show assumed percentage increase or decrease (which is generally the average of a high/low assumptions for severely hit and not severely hit areas shown in parentheses).

Impact on Consumer spending (values in trillions):

Necessity spending (Food at home: 1.0 + Health care : 2.5) grow 5% = + 0.2

Shelter 2.7 unchanged

Consumer durables: 1.5 reduce by 60% (90/30) = - 0.9

Other Consumer nondurables: 2.0 reduce by 60% (80/40) = - 1.2

Recreation, accommodation, and food services: 1.6 reduce by 60% (90/30) = -1.0

Transportation: 0.5 reduce by 50% (70/30) = - 0.3

Finance, insurance, and real estate: 1.2 reduce by 20% (30/10) = - 0.2

Other services 1.2 reduce by 60% (80/40) = -0.7

Total consumer spending -4.1 = -19% of GDP

Impact on gross fixed investment in business and housing:

Depreciation (maintenance investment, etc), 3.5 reduce by 10% = - 0.4

Net investment 1.0 reduce by 60% (90/30) = -0.6

Government spending: +0.1

Net exports: +0.1

Total drop in demand side: -4.9 = -23% of level of GDP

The bottom line from the demand side analysis is that the implied 23% decline in the level of GDP is somewhat larger than the supply side estimates we came up with. In a protracted scenario in which the entire US were severely affected, the hit to GDP could be about one-third higher or on the order of -30%.

To translate these losses in GDP into estimates for growth in Q2, we have to make assumptions about when the impact of the decline begins and, more importantly, when it begins to dissipate. On the optimistic side, if the decline in output follows more closely the lower end of the range of our supply-side estimates and the impact begins to dissipate around the middle of May – leaving April as the only full month that is fully impacted – the quarterly decline in real GDP could be more limited. These assumptions could produce a decline of around 10% on a quarter-over-quarter basis, in the neighborhood of 30% annualized. On the more pessimistic side, if the decline in output is more aligned with the estimates implied by our demand-side methodology and the containment measures continue beyond June, the quarterly decline in GDP could be as much as 25% (about 68% on an annualized basis). This range is obviously wide, but wide uncertainty bands are appropriate in unprecedented periods. What is notable is that all of these estimates are several times beyond the worst quarter for US growth in history (real GDP fell 10% annualized in Q1 1958).

The implications for US unemployment could be staggering if these estimates are correct and no government measures are taken to limit the shedding of employment that could take place. As a simple illustration, if we use the Okun's law relationship, which says that movements in the output gap are roughly twice as large as movements in the unemployment gap, the 20% quarter-on-quarter decline in GDP that is around the middle of our range would translate to an approximately 10 percentage point rise in unemployment. That is equivalent to more than 15 million individuals becoming unemployed in response to this impact. The actual rise should be considerably smaller given the range of government policies under consideration that should provide a backstop and help firms maintain their payrolls, as well as the possible transitory nature of the shock.

Appendix 1

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