NNBEVEP1: Neville Norman's Business Essentials Virus Economics Paper #1

Why (Standard) Economic Forecasting doesn't work in the Virus Crisis

A Note to my Readers: This series of 'VCE' papers – meaning Virus Crisis Economics – are written in April 2020 to help you better plan your finances, businesses and lives, to entertain you, and keep me 'off the streets'. If anything is unclear, plain wrong, or you want more or more specifics, contact me please. My best (only?) 'contact' is email: n.norman@unimelb.edu.au, or nrn1v@econ.cam.ac.uk)

All models and methods (please don't say 'methodologies') we economists use and teach to study and predict things like GDP, prices, unemployment, government budget balances (make that 'deficits' now, for a few years ahead) have no tools to deal with a global virus crisis that shuts down (through the restrictions 'authorities' invoke and enforce) huge slabs of economic activity, like 25 to 30%.

Told the details of the CoVid-19 restrictions, a nine-year-old child (JWW, my best man's favorite phrase, to show up smarty-pants' people) could forecast economic activity in, and through, the crisis more closely that any economic model that does not thoroughly incorporate the virus and the virus-caused restrictions themselves. None do, or did. I'm building one, with barebones sketched in this and other papers in the VCE series. I'm also writing a Child's Guide to ***Our Economy in the Virus Crisis***, for my younger grandchildren: it's too easy for the older ones.

Our training as economists is to model and collect (data and survey) evidence on what causes things like GDP (Gross Domestic Product, a measure of overall activity in the economy) to move up and down, usually by a 'whisker' each quarter, or year. Microscopes on now please. We use household disposable (after-tax) incomes, tax rates, interest rates, and other 'drivers' like export volume changes, government spending and shifts in confidence. We wrap all this together in equations, get side forecasts of the drivers and crank up the machines, so (real/constant prices) GDP will fall by 0.02% next quarter, and so on.

Despite what non-economists often tell me, this is NOT 'econometrics' – that's a huge field designed to estimate economic relationships where nearly all the action is found in 'error terms', which don't feature in most public showings (so far) of economic forecasts. They are just models, or to use a fancy term, 'non-stochastic' models. If you know Greek you'll understand what that means without doing economics.

The crowning glory in show-off economics is Vector-Autoregressive (VAR) forecasting. How's that?

VAR (which means other things in finance and medicine) is really econometrics and is what we call a full-information system – using all available (sic!) recent and past information on any economic variable.

I can't do any better than Wikipedia's quote of what VAR is:

Vector autoregression (**VAR**) is a stochastic process model used to capture the linear interdependencies among multiple time series. VAR models generalize the univariate autoregressive model (AR model) by allowing for more than one evolving variable. All variables in a VAR enter the model in the same way: each variable has an equation explaining its evolution based on its own lagged values, the lagged values of the other model variables, and an error term. VAR modeling does not require as much knowledge about the forces influencing a variable as do structural models with simultaneous equations: The only prior knowledge required is a list of variables which can be hypothesized to affect each other intertemporally.

Let's consider that? Please read it again.

As we have no past data over the long times required for VAR that contain the coronavirus, CoVid-19 doesn't get into the picture. So, GDP, and all its mates, according to forecasts based on VAR and many other standard economic approaches, chug on regardless. [Rude words – redacted.]

I use many things, including insights from real people, in making may forecasts. I try to ask myself what any series continuing with the same level, ratio or rate of growth would mean, or would take to happen again, or continually. And, of course, I use every economist method I know, including VAR. When ready, I release them – to Business Essentials, the Scope team, etc.

Let's apply this to a subject it's not very comfortable to mention at present: international tourism to Australia.

A flamboyant Minister of Tourism in the Hawke Government released the (gross) tourist numbers coming into Australia for 1988, boasting they'd just shot over two million (ABS Cat 3401.01: 2.25m actually), "more than doubling from 5 years before – the 1983 number was 0.95m. [Today – correction 2019 was over 9m.]

The Minister went on to 'predict' the numbers would double again in the next five years – to near 5 million in 1993. His main 'explanatory variable' was his own fantastic "Come to Australia" campaign. Actually, the Minister was renowned for using 'desktop' methods, for forecasting, and other things, drawing lines through data instead of really thinking what drove the data. Like the Libyan and Chernobyl crisis driving tourists away from Europe and the Middle East. Like World Expo held in Brisbane in 1988, dragging in thousands who would not otherwise have come to Australia, or not just then anyway. Like the crash in the Aussie dollar that enabled even 'boat people' to come to Aussie cheaply, first-class (Barry Humphries). Some of us tried to point out at the time that the Minister's underlying forecasting assumption was that the same set of factors would happen again in the 'next' 5 years (1989 -93) as they did in 1983-88.

Even a 9-year old child…. (sorry, I used that before….) Seriously, even VAR would have picked some of that up. Better – my trick when I research special fields, try to get inside the decision that drives people to do things, like talking to travel agents – they really know their stuff. Now they'll really be

tested. The best will survive and smart travellers, even persistent ones like me, will be using them even more, after what we've seen in the virus crisis.

Moral: temper the technical stuff in forecasting with some real-world insights and inside knowledge.

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Version prepared as at 7th April, 2020

NNBEVEP2: Neville Norman's Business Essentials Virus Economics Paper #2

A Guide To 'Pointless' Forecasting for Businesses seeking to plan a way through and out of the Virus Crisis

A paper in the Neville Norman series of VCE papers

A Note to my Readers: This series of 'VCE' papers – meaning Virus Crisis Economics – are written in April 2020 to help you better plan your finances, businesses and lives, to entertain you, and keep me 'off the streets'. If anything is unclear, plain wrong, or you want more or more specifics, contact me, please. Neville. My best (only?) 'contact' is email: n.norman@unimelb.edu.au, or nrn1v@econ.cam.ac.uk)

'**Forecasting**' is making statements, usually with numbers attached, about the future. Anyone can do it: foretelling it is the hard bit.

(Single-) Point Forecasts present one number for any one thing, for each time point, or period, for which it is forecast(ed). As if no other outcome were possible, or likely!

I've waged war about Single-point forecasts, as the only thing done, for donkey's ages. In the uncertainty-ridden setting with CoVid-19, I'm sending in my army.

Examples: 'GDP will grow by 1.85% next year', 'unemployment (rate) will be 5.36% (of the workforce) in late June next'; 'Our sales were $4.36m last year: we reckon that will be $4.52m next year', etc.

The arrogance and apparent precision of single-pointers is almost as worrying as the way Bank 'Managers' (trained by me and my lot) bin loan applications coming from firms who use them.

OK, what else can you do, I hear you say?

Several points forecasting is better – a 'most-likely', 'better' and 'worse' (please don't say/use 'worst'), trio of points– that's like 'scenario planning' and is right away an admission that more than one future outcome is credible. The section below shows that and how to do it. Big companies have used this method for years, notable big oil companies facing the same sort of risky environment we've all had since the virus (make that 'virus restrictions') hit home this year.

Range forecasting is better still, but harder to do. It's a point forecast with bounds around it, even better with probabilities, like "I'm 95% confident the Australian Population, now 25.7m, will be between 29.8m and 30.2m at 30.6.2028: central point figure 30m". Or "I'm 95% confident the share market, now around 5000 index points (ASX 200) will be between 3000- and 7000-points next week: single-point figure 5000." Among other enrichments, like humility, it shows some things fluctuate (technical term, wobble) more than others. Read it again, please.

One 'leading' (not my assessment) economist jumped their recent (point) prediction for unemployment rates from 5% to 16% when the virus restrictions came in, then hauled it back to just

over 9%, when the stimulus packages came. That was the only detail they released about their forecasts. Point made (pun intended)!

Fancy forecasting, which we teach in unis, requires probabilities to be assigned to every 'possible outcome'. Forming what we call 'probability distributions'. Lotsa maths here. But you can dodge that by taking a major message from it: the 'most-likely' outcome in your range or scenario set is not necessarily in the middle, and usually it isn't.

To do this in practice, just work with your team, and accountants, and ask what are the likely now 'credible' ranges for all the numbers in your financial statements, work them through, debate how likely each is and what you could do to protect against the 'bad' outcomes, or restructure your fundamentals, or lump it and ride through.

If the 'adverse, credible' scenarios don't happen, you've at least prepared for them. If they do, you're ready.

Good luck, Neville N n.norman@unimelb.edu.au; nrn1v@econ.cam.ac.uk as at 7April, 2020

Argument over, a 'how to' addendum now follows….

How do we do Scenario or Risk-based Forecasting in Practice?

The good news is that everything starts with the point forecasts. You don't have to give them away. What I've slammed is 'stopping there and doing nothing more', not the point forecasts themselves. With a few very technical exceptions, they become the 'middling' or 'most-likely' scenario – then we get to work on the other ones.

The simplest way to meet my test is to append notes to the point forecasts to explain their 'sensitivity' and show what would happen if underlying conditions changed. The best-ever example: this damned coronavirus itself.

As an adviser inside the Fraser Government in Australia I had a nice victory in persuading them to do just that and it's been done ever since: it now gets a whole chapter in all annual Australian Federal Government Budget Papers. The UK Treasury and many others now do the same. To be honest, I've had far more crushing losses in trying to get this done than victories, over the years.

For firms, it's simple – run three sets of forecasts, for all your balance sheet (assets and liabilities) and 'income and expenditure items' for however far and frequently you look ahead. Ask your accountant to do that. Even easier – use a spreadsheet like XL. Make the columns (verticals) the periods starting with the recent past and into the future, the rows (horizontal) the items you forecast – like sales revenue and expense items, then click the tab at the bottom and label it 'Scenario A' or 'Most Likely', then do at least 2 more on different 'pages' of the spreadsheet workbook, copying the most-likely numbers across and changing them for the different scenarios. You can bring the main results into a summary table for easier digestion.

My approach to the virus-affected economic forecasts is in Note A, which many of you will have seen before.

When that's done, I recommend you:

- Assign what you think are probabilities (chances) of each scenario. {See mine above in the third box above.} Please feel free to change them when things change. If they don't add up to 100%, something is haywire.
- Look closely at the results from each scenario and discuss them with your closets business associates (for some that's just family and a good financial adviser) what you could do with any of your 4 P's (products, prices, promotion and partnerships) to achieve your goals better or to avoid bad things happening, or make good outcomes more likely. This is point 2. above.
- Share your thinking – preferably written down in clear, succinct business language - with your banker/financier/landlords etc. This is point 1. above.

Measuring Forecasting Accuracy

Taught this for years. It's technical, but I'll try here a plain-words' explanation.

When the dust settles, we have a set of numbers of the actual outcomes. We call that the 'A' set. It's stuff like employment numbers, GDP and prices, measured by our statistics collectors. We also have our predicted numbers made some time before, called the 'P' set. We then confront the two sets and we generate a set of 'prediction errors', called the 'E' set. In the simplest version, the E are just P-A, the extent to which our predictions exceed the actual.

So, if I predicted a series over the next three months as 100, 100 and 100, and the actual data were 98, 100 and 102, my prediction errors would be -2, 0 and +2, my E set. If we added up my prediction errors the total would be zero, which is crazy because, only 1 of the 3 was right.

What we do is to penalise all errors and thump the bigger ones relatively more. The easiest way to do that is to square the errors and add them up. My E-squared are then 4,0 and 4, making 8. I'll stop here but I'm hoping you've got the essence of this. For the technically-minded, search 'Root-Mean-Squared Prediction Errors' and 'Theil coefficients'.

If anyone submits our pre-virus-made forecasts for 2020 to this process, some monster prediction errors will emerge.

The Best and Most Inaccurate Forecasts I know – before those for 2020!

The (Sir James Vernon) Committee of Economic Inquiry in Australia used risk-based scenario planning to generate sets of forecasts for the Australian economy, looking long ahead to 1975 from 1965. The then Menzies Government hated some of its proposals, like advisory boards prominently

featuring economists, and pretended to dismiss the whole thing, while in fact later implementing many of its key recommendations on technology support, productivity and trade protection. Our point here is that the Vernon group predicted under ALL of its credible scenarios, made in the archaiuc fixed-exchange rate world, massive balance-of-payments deficits arising from the demise of traditional staples like wool and the failure of other exports like mining products to take over. They would have been completely accurate. In fact, the Government took great notice of the doomy trade predictions, lifted crippling restriction on iron ore and other mining exports, which from the later 1960s created a huge mining export boom, making all the Vernon trade balance predictions massively 'erroneous' meaning 'inaccurate', on any test, but proving how incredibly 'valuable' those predictions were, in scaring the Government into action. Case made.

Finally – We do you read Published Point Predictions attributed to me?

Guilty! You will see in general publications my forecasts printed that are just ONE number for each thing forecast. Let me say: (1) newspaper publishers tell me there isn't room to publish multiple forecasts/scenarios, and also 'the public' wouldn't understand them. My choice is to walk away or just accept what is: make that 'what was': The Scenario Forecasting Revolution has just begun, due to CoVid-19. Point (2): all my clients get scenario-based forecasts, not least because they ask for them, and that's because they are trained to so ask for them. My case rests. Please ask.

Neville R Norman (Melbourne, not since a long time; and Cambridge, now and for a long time, apparently)

To contact me, at all relevant times, the best are my emails: n.norman@unimelb.edu.au; nrn1v@econ.cam.ac.uk

(Locked down – or is that up? In) Cambridge UK – 1st April, 2020 (No jokes about the date, please, it's after noon here!)

Addendum: How to Use three scenarios for economic forecasts with CoVid-19 in 2020.

Australian Economic Forecasts for 2020 – Now that CoVid-19 is upon us

Until a month ago I expected the Australian economy to do this:

- GDP, average wages and prices (CPI) each to grow around a sluggish 2% through 2020,
- with (even) lower interest rates than now, (my *Scope* Forecasts, The Age/SMH 1/2/20),
- a Federal Budget in May 2020 with admissions from the Government that getting the minuscule deficit into minuscule surplus may be all too hard (my Business Essentials forecasts for months back),
- a year that once again avoids 'recession',
- unemployment staying in the low 5%'s (of the workforce), and
- bankruptcies and debt fairly well under control.

Scrap all that – the understandable/unavoidable CV-based restrictions on what or where we can do, buy, sell or go are like a monster's knife cutting huge chunks out of the economy and letting us pick up the pieces. Reductions of significant magnitude in output, jobs, profits, incomes and all material comforts are inevitable.

I see these events unfolding with almost nothing we can do now to stop them:

1. shocker numbers manifested in data released monthly: retail sales, housing starts, house sales (not necessarily prices just yet), car registrations, and notably jobs/unemployment
2. a clear negative movement in economy activity measured by GDP for the March quarter – headline news in late April, followed by another (probably far worse negative) for the June quarter, so that by late July huge emotions will follow the official pronouncement of a deep 'recession' not seen for decades in Australia.
3. Budget outcomes with large deficits and debts associated that will scare so many but, in fact and on analysis, these measures will be the main reasons the economic slaughter will not be greater. They will reflect huge government support measures already announced, and more to come, and later the enduring effect of big losses in tax revenues from persons and businesses.
4. A flood of one-liner end-of-the earth forecasts that in this environment many people will find credible.
5. The emergence of classical/monetarist-economist bleating that all this government involvement with large deficits and debt is unwise.
6. Our worst year in the economy for decades but NOT the deep dip of 1929-33, with 32% unemployment, despite predictions that it will be.

I'm under pressure to put numbers on all this, and I can: but not before my approach is ventilated. Please read on – you've got the headlines but not the logic (or the numbers).

My approach to making any forecasts in this environment, or in any environment:

1. Make explicit all relevant assumptions – and now that also entails details of what is predicted or assumed about the intensity, spread and duration of BOTH CV and the government restrictions and support measures, inter alia!
2. Use ranges or scenarios because bluntly-stated "This (singular) WILL happen" has no place in this CoVid-19 environment of huge uncertainty. That said, almost all published forecasts are single, point estimates, because we need a revolution in thinking and understanding before publishers of forecasts will risk presenting them in a proper 'risk' framework. I can only try: see my note below on "scenarios"
3. Be prepared to change when circumstances change, and admit it. The greatest economist of all urged us to do this: "When things change, I change. What do you do?" (Lord Keynes). So, my forecasts of a month ago have to be dumped, unless you think I should have anticipated and built CoVid-19 and all it means into the forecasts I made late last year.
4. While judgment and instinct inevitably invade our forecasts, try to use a rigorous basis in the task, at least to check the consistency of the forecasts – I have a technical note on that – appended below.

5. Look backwards – to history, though there is literally nothing in the past like CoVid-19.
6. Look longer – beyond the present crisis, to the inevitable recovery, as well as, not instead of, the CoVid-19 crisis itself.
7. Look around/sideways: confer with fellow economists and people who are actually inside the decisions that make the outcomes we forecast. There has probably never been a better time to do this, sitting (and exercising) at home with fantastic means of communication.

There is much that people can do to minimize the burdens of CoVid-19 and prepare themselves for the inevitable recovery, as long-off as that might seem today.

I urge everyone to use a formal setting and explicit assumptions or data about:

(i) **the virus**, its incidence by infection cases, deaths and its spread;

(ii) government and self-imposed **restrictions on movements,** what or who can trade, and what we care still allowed or chose to do;

(iii) government emergency **support measures** for persons and businesses; and

(iv) the **time lines and duration** over which all this happens.

I have already seen a number of published accounts of the economic impact of CV. If the authors or reporters involved are even conscious that none of these 'predictions' makes any sense without this backdrop, they tend not to unveil their assumptions/presumptions about the spread of the virus. How can any sense be made of such numbers unless the virus-intensity and spread on which they are based is revealed? I have included in this some 'recent' virus data as at 28th March: it changes radically: in UK as I write, the death numbers rose 25% in the last day! But in China, the growth rate has already slowed right down to 1/10th of 1% - after 3 days last week with zero deaths. This is hazardous for making predictions, but we have to be clear and explicit.

To assess the impact of CV on economies, business sectors, persons and organizations requires an explicit, structured, framework running from the 'drivers' to the selected outcomes.

The real driver here is not CoVid-19, the 'cases' or the deaths themselves, but the nature, severity and duration of **restrictions** on movement, activities and spending that governments require and persons impose. That process then works through a series of 'channels' reflecting change in income, time-use and location, bounded by supply restrictions and new government support arrangements the likes of which have never been seen before.

I propose three scenarios with probabilities of occurrence attached by judgment:

A. Mild, really the Miracle, Scenario – the number of new cases and new deaths from CV start to slow down from rates seen at last March, 2020 so that restrictions on movement start relaxing in 3 months or earlier;

B. Middling Scenario – as above with restrictions lasting 6 months from now then resolving;

C. Monster Scenario – restrictions last nine months before relaxing, taking us to late 2020.

My revised economic forecasts for 2020 made in early March took a credible view of the spread of the virus with limited restrictions. Those preconditions have already in three weeks been replaced by alarming increases in deaths and the impost of heavy restrictions that have come more severely and sooner than expected. [Data: 17 world-wide deaths from CV by January 22; 565 by February 5; 2800 by February 26; then just on 30,000 as I write 28/3/20.]

My 'most severe' scenario in used for my forecasts delivered in early March is already the 'mild' one that seems credible right now, in late March, 2020.

The following table sets out the main ways in which the three virus and restriction scenarios differ from each other.

Scenarios/Details	MIRACLE/MILD	MIDDLING	MONSTER
The Virus	Daily Death rates in countries continue but are reduced in April/May	Daily virus death rates continue to rise until June 2020	Daily death rates continue to rise until September 2020
Mandated restrictions on the movement of persons across borders and from home and to work	Rigid restrictions continue until May/June 2020 when they are relaxed	Same restrictions or heavier are not relaxed until July/August 2020	Heavier restrictions are in place until October/November 2020 which are then gradually relaxed
Linkage to spending patterns by households and firms	Incomes reduced; product range curtailed; sport, leisure and travel activities prohibited	As for MIRACLE, but longer	As for MIDDLING, but longer
National production GDP	Significant cuts in incomes and spending with multiplier effects compounding the demand base for 3-4 months. Recession declared after the June quarter results	As for MIRACLE except longer, with further support packages from Governments and deeper drops in GDP September quarter	As for MIDDLING, but longer with severe drops in GDP through into 2021
Government support and effect on budget balance	Increase in budget deficits until 2021	Larger increase in budget deficits until later 2021	Increase in budget deficits until 2022 at the earliest

The next step is that we need to list the so-called impact variables: the things or economic categories on which the effects of CV are registered. The impact things are either important to us in themselves – like incomes, debt levels and profits – or because (like the GDP effects) they are economic channels through which the economic consequences are registered and multiplied.

Then we need to set a time scale. This is too often forgotten or ill-considered. I judge that calendar forecasts for 2020 are demonstrably too short for this monster. To do this properly, and every professional person or business firm should do this, we need a monthly series of time labels going into late 2021, at the earliest.

Now some details and things to get ready for – most things none of us has ever seen before.

Get ready for the following, in addition to the 'news' about cases and deaths, and the demise of both well-known and lesser-known people and businesses:

1. We can anticipate some 'breaking news' (what a hackneyed phrase that is) when March-quarter GDP results emerge in leading countries in late April and into May. I doubt that any country will show a positive growth rate. That will mean that 'real' income, spending and product has slumped absolutely c.f. the December quarter or the March quester of 2019. I see that as a certainty, but it will still surprise many people, and reporters. For a few days the stock markets will have another shocker.

2. Jobless numbers and the unemployment rate will trickle out each month. Will the 32% unemployment rate of Australia in 1932 – easy to remember – be reached? Before succumbing to total gloom, remember that a huge proportion of employees will continue to work from home for the same or limited number of weekly hours of work and not thus be counted as 'unemployed'. They will still have incomes and spending and many will have government support and cash reserves. And the support packages unseen before 1934 will soften the blows to output and jobs.

3. By June or July, 2020, we should have some fiscal deficit numbers published that will terrify a majority of people hooked on classical or monetarist economics. This will be a bad time to for them digest. They are probably already seething at the huge payouts already announced by Governments, which include many conservative-type politicians and political parties in power in countries like Australia, the UK and USA. Roll on another year and then an even bigger fiscal effect, in my assessment, will arise from the erosion of tax revenues collected (make that 'not collected') from persons and businesses. If we had only the mild/miracle or middling virus scenarios, the restrictions driving the economic impacts will be lifted later from middle/later this year, travel and entertainment and all activities currently curtailed will bounce back, but the crunch in profits and tax collections by governments will endure much longer.

4. Like Brexit, we've almost forgotten the now-buried central banks in all this. Do they still believe that slashing official (and thus other) interest rates will do any good here? If they do then get ready for cash rates significantly in minus territory before (evidence-based) sense prevails.

5. Then we have a host of effects confined to specific industries or sectors, and perhaps countries. Clearly, the travel sector and all that goes with it is in damage control. So are many service providers I've been associated with through my career: business conferences, speaking arrangers, sports, cultural and entertainment activities, fitness providers, restaurants, bars, clubs, retail stores and shopping centres (except those designated to remain open during the crisis).

6. Having read every major Australian newspaper in the 1929-32 crisis for my research on the 1930s Depression, I was struck by the impact of that deep Depression on business failures, debt and mental illness, manifesting in divorces, suicides and other personal trauma. Hopefully, this time, the speed of government support and the fantastic technology we NOW have that did not exist 90 years ago will cushion all these blows.

This is just a framework, but a necessary one, that should underlie all serious attempt to answer ANY questions about the CV disaster on economies, businesses and persons.

Some CV data and a First Cut at Building them into the Scenarios

This scene changes by the day: this week UK had a 25% increase in CV-related deaths, in ONE day! You can quibble about the authenticity of the data, for some countries especially, the attribution to CV as a cause and the lack of partitioning into gender, age, person status, etc., all of which we would do for serious analysis. The reality is that the CV deaths came from nowhere a months ago and are accelerating in many countries. That makes even short-term projections of the data hazardous, even as a backdrop for the economic predictions. The diversity of country experiences complicates the task further. But we must charge ahead, being open at all stages on what we are doing.

Country	CoVid-19 Cases (k)	CoVid-19 Deaths	Last Day Increase in Deaths	DayInc/Dths Dth IncrRate	Days to Double Cases
USA	116	1,937	241	12.44%	2.6
Italy	92	10,023	889	8.87%	7.8
China	81	3,295	3	0.09%	
Spain	72	5,812	674	11.60%	4.2
Germany	56	403	52	12.90%	4.7
France	33	1,995	260	13.03%	5
Iran	35	2,517	139	5.52%	13.3
Switzerland	13	242	11	4.55%	4.5
UK	17	1,019	260	25.52%	3.6
Canada	5	55	1	1.82%	3
Australia	4	14	1	7.14%	3.5
WORLD	645	29,951	2,609	8.71%	

Time scale	World Deaths
Jan-22	17
Jan-29	170
Feb-05	565
Feb-12	1,261
Feb-19	2,126
Feb-26	2,800
Mar-04	3,202
Mar-11	4,628
Mar-18	8,951
Mar-25	21,282

Source: from https://www.worldometers.info/coronavirus/ accessed 28/3/2020 GMT: data assembled and analyzed by the author.

Some credible scenarios for CoVid-19 deaths under each scenario

Let's be brave, but open.

End of Month	Miracle Scenario	Middling Scenario	Monster Scenario
March 2020	35,000	35,000	35,000
April 2020	45,000	50,000	55,000
May 2020	50,000	60,000	70,000
June 2020	52,000	65,000	75,000
July 2020	53,000	67,500	80,000
August 2020	53,500	69,000	82,000
September 2020	54,000	70,000	83,000

Intensity of CoV-19-Mandated Interventions by Governments

Data based Restrictions on movement and economic activity: 0 is zero, 10 = total lockdown

Month	Miracle Scenario	Middling Scenario	Monster Scenario
March 2020	6	6	6
April 2020	7	8	8
May 2020	7	8	9
June 2020	5	7	8
July 2020	3	6	8
August 2020	1	4	6
September 2020	1	2	5

Heroically, each scenario has restrictions intensified from now, on average in the world, and being substantially relaxed, to let economic activity bounce back, by later this year.

This set of scenarios underlies my very prediction that a positive growth in GDP might be seen in Australia for the September quarter, if we avoid the monster scenario, but that result will not be known until late October, or later.

NRN – adapted from a note written 30th March, 2020.

Supplementary Note A:

Some Simple Maths of Unemployment Rates and the link to production effects

If Q is a measure of the quanta of output Q and E is employment, then the quotient Q/E is a measure of 'labour productivity'. This is NOT the productivity 'of' labour, E is just a scaling factor representing factor inputs. (The UK's statistical authority, the ONS, has far more sophisticated measures of 'multi-factor' productivity, much preferred for 'efficiency' measurement, but not requires for present purposes.)

If Q and E change in the same proportion – e.g. both fall by 10% due to CoVid-19 effects, then (labour) productivity, their quotient, must have remained unchanged. Put differently, if output contracted by 10% and we assumed that productivity was unchanged on this definition, then employment would also fall by 10%. The recent ONS data show UK productivity at zero change right through 2019 to January 2020. The Australian and US data are for small increases. The Australian official forecasts are (make that, 'were') for productivity growth to rise from +0.5% this year ending June 2020, to 1% next year then 1.5% the next two. (Treasury, Australia, Mid-Year Economic and Financial Update, December, 2019). If that happened, there would be a greater gulf between output losses and employment losses: jobs would fall relatively further than output.

Let's assume that (labour) productivity stays roughly unchanged during thus crisis, then the percentage change in employment due to the CoVid-19 factor (lower case e) will be the same as that in real output (q). {There are good arguments why Q/E might fall in all this, and some that it could rise.}

The impact on the unemployment rate can be worked in algebra, but a simple example makes it plainer:

Suppose we have 100 workers, of whom 3% are unemployed, close to the UK situation at January 2020. A 10% drop in jobs makes employment 87.3 (97 minus 9.7, easy) with an <u>unemployment</u> rate of 12.7/100, or 12.7%, up 9.7 percentage points or 323% higher than the starting 3%: it more than triples.

If we had a 5% unemployment rate in January, as in Australia, the number employed (95) would fall to 85.5 (95 minus 9.5) and the unemployment rate would be 14.5% an increase of 9.5 percentage points or 190%, a mere doubling of the rate.

If we had a starting 10% unemployment rate, the 10% drop in jobs would cut employment from 90 to 81, thus a 19% unemployment rate, being a 9-percentage point increase, or 90% higher (a good exercise in the maths of base changes).

We should really consider if labour-force withdrawals or productivity changes induced by CoVid-19 complicate the picture. Let's leave that aside for the present, because we are looking at sharp, sudden effects with CoVid-19.

Economists call the links between employment and production the 'production function'.

The message is that employment and output effects are related and the linkage is productivity. If forecasters provide numbers for both output and employment effects, they are making implicit assumptions about productivity of which they should be aware.

NRN 28th March, 2020

NNBEVEP3: Neville Norman's Business Essentials Virus Economics Paper #3

Commercial and Residential Property in the CoVid-19 Crisis

A paper prepared for Neville's VCE support series

A Note to my Readers: This series of 'VCE' papers – meaning Virus Crisis Economics – are written in April 2020 to help you better plan your finances, businesses and lives, to entertain you, and keep me 'off the streets'. If anything is unclear, plain wrong, or you want more or more specifics, contact me please. Neville. My best (only?) 'contact' is email: n.norman@unimelb.edu.au, or nrn1v@econ.cam.ac.uk)

Property turnover, sale prices, rents and rent collections will all be affected. So will construction, lettings, refits, property maintenance and management and ancillary industries and providers. Lying behind all this is the severity, spread and duration of the virus, spawning the mandatory and self-imposed restrictions on what we can do, buy, sell and provide. In addition, we have property-specific regulations that have been drummed up, some of them almost absurdly without much insight or 'on-the-block' knowledge.

Margaret, my wife, and I have always held property as the dominant part of our asset mix; we still do, in Melbourne, NSW and UK (Cambridge and Keswick, in the English Lakes). We fought auditors for years who said we were 'overweight' in property. We have for years professionally advised property developers, and investors, and have given economic confidential reports and property-specific evidence in major legal cases on valuation and related disputes. We built or rebuilt 4 properties in Australia and 2 in UK, much with our own hands. We are very 'property oriented'. [I'm following my ancestor Charles Norman – see the ending footnote.]

In 1992 I headed a ***Property Valuation task force*** with recommendations that were widely commended as a new valuation standard, but they were adopted only by a few, privately. We identified valuation rules and procedures that seemed to be OK in normal times but had no hope of handling the impact of a sudden crunch. Fossils like 'last-comparable sale' need to be buried at times like this. In a crunch, like we saw in 1990 in Australia, the stream of (amended, realistic discounted rents and capital gains) WILL reflect a proper market (re-)appraisal of (commercial) property. Values from the 'last-comparable building' sold (before the crunch) do not. Point made.

In the UK, being property-bound here, in the crisis, and for XXX months ahead, we record that many construction projects have stopped, or been stopped, in their tracks.

British Land (a FTSE top 100 landlord and owner of the Broadgate complex in London and Meadowland shopping centre in Sheffield) suspended in late March (2020) all future dividend payments and halted all construction work in construction projects in London it was building.

Hammerson which owns the Bullring shopping centre in Birmingham and Brent Cross in London scrapped its final dividend payment, reporting that its retail tenants paid just 37% of their quarterly rents due. **Intu Properties**, another huge owner of shopping centres in UK gave a similar report, but had not sustained the pre-virus share value crunch that Hammerson had. Intu then sought a full debt waiver on its own loans from its own lenders. Both have had share prices drop about 30% since early March. (The Times 31/3/20, p.44)

The British Government has also 'allowed' all tenants of commercial property to 'hold back' (sic!) rental payments for 3 months. Great, perhaps, for the tenants. No thought for the landlords/property owners whatever! Do Governments understand that huge property holders have millions of 'ordinary' mum 'n' dad shareholders, if only through their super funds?

Many UK firms are offering 3-month 'rent holidays' to their tenants, and holiday flat occupiers. Maybe that's right, but have they thought it though, the precedent it creates, and cashflow effects on them?

Many home building and building supplies companies are already in trouble.

On April 1, 2020, UK Treasury released estimates that price and especially turnover crashes in property would cut 60% of its stamp duty revenue (Times 2/4/20 p2)[8.6bnstg to 3.8bn]

There are many design defects in the 'rushed' (my comment) UK commercial rent relief scheme, which was thrown together last month– The Times 27/3/20 p. 43.

On April 3, 2020, in Australia a unique bunch of building associations and building-worker unions joined to warn the Government that plans to close the building industry was catastrophic and they would together take severe disruptive action if it happened. (Sun-Herald 4/4/20)

Smart valuers and property auditors are already asking for much more information from within their clients. About time.

Property will inevitably be affected by interest rate and tax (deficit-recovery) policies that we have not yet seen.

Also, it is reported that real estate agents in Australia started telling their tenants to pay rent from their super (sic!, not so super now), until the Government started telling them that jail will follow if they keep trying that one. (April 2)

April 6: Details on the Tenant support code in Australia:

Mandatory industry code for commercial and retail leases revealed

After continued jostling with industry groups over the weekend, Prime Minister Scott Morrison today revealed the final details of the mandatory Commercial Tenancies Code for commercial and retail leases. This is generally in line with the update the Prime Minister gave last Friday.

Now agreed upon, the Code will be legislated and managed by the States and Territories and will be subject to binding mediation. The two core principles underpinning the Code will be good faith and proportionality, with landlords and tenants urged to work together on how to best manage rent relief going forward.

Who does the mandatory code apply to?

- The code will apply to tenants with a turnover of $50m or less.
- Tenants that have experienced a 30% or greater loss in revenue.
- Tenancies where the landlord or tenant are participating or will participate in the JobKeeper program.

What does rent relief look like?

- Landlords are expected to negotiate in good faith and 'share the pain'.
- The rent relief should be proportionate to the reduction in turnover and should comprise waivers and deferrals.
- Waivers must account for at least 50% of the reduction.
- Deferrals should be offered for the duration of the lease period or a minimum of 12 months. This means if a tenant has six months left on their lease, they should be offered a 24-month period to pay any deferred rent.
- Landlords cannot terminate a lease on the basis of non-payment, nor dip into bonds to cover unpaid rent. Those who choose not to engage may forfeit themselves out of the lease.
- Tenants are expected to honour their obligations under a lease (i.e. they can't just walk away, which was one of the industry concerns when the initial guidelines were announced). Source: Grant-Thornton accountants, corrected for time delay details for rent payment.

Source: Grant-Thornton accountants, amended for PM's clarification – which is my point!

Every new support package is likely to have bugs in it as well as relief and help for many. Why? Because all this is so rushed and the 'officials' writing all this stuff have mostly never been inside any real transactions relevant to the packages. (– NRN)

Message – check the details and stand up for your rights, whether you're an owner or tenant. I see 'property' as a key dispute area in the virus crisis.

A Personal "Property" Footnote:

Land and property have been big in our family for yonks. My mother's side came from farmers in England not far from our current 'second' home (in Cambridge). After migrating to the Melbourne areas (all as 'free settlers') in the middle 19th century, they developed estates and market gardens in Brighton Victoria and in what became known as the 'Bulleen'/Doncaster area in Melbourne, named after them, the Bullen family. My father's side were more urbane. My paternal great-grandfather, Charles Norman, migrated to Melbourne from Devonshire England in the late 1870s, developed a substantial construction business and a large personal residential property portfolio, which suffered badly in the 1890s land crash. But because he 'had' cash and property reserves, which he used, he survived the crash and kept his core family and people assets, including his home servants, one of whom continued to care for my grandfather as a baby (Frederick Norman, born late 1889).

[Source: Emmeline, a then young family servant/ carer and housekeeper to Charles Norman and his family in the 1890s, who tracked us down in 1963, wanting to know what happened to Freddy (who sadly died in 1956), told us her story about all this when she was just on 90 years old and living in Sydney. My father (Alfred Norman) was so keen to learn more about his own grandfather that we went to Sydney, spent some time with Emmeline and discovered so much inside detail about our ancestor. Charles was ahead of his time. He married, at the tender age of 20, a 38-year-old, dumped her for a wealthy heiress (Bessie Biggs). They eloped on a first-class voyage from Plymouth to Melbourne in 1879, getting pregnant on the voyage. Only one of Charles's two sons (Freddie) fathered a son (Alfred) who fathered a son, which is me. I fathered two sons who have already fathered FOUR sons, to keep the Norman family name running. How's that? Charles's father had businesses in Devon, and his 'wife' (see later) Elizabeth Barnes Biggs (Bessie) came from a manorial family in Wiltshire, her father the bank manager in Marlborough, and her wealth tided them through. I'm just saying one thing here: a good asset base is a great start in the crisis, as long as you have enough, but not too many, sons. NRN]

Uncharitable extension to that footnote, based on my research hobby – family history. Bessie never married in England, on the ship to Victoria, or in the-then Colony of Victoria, until after she had already given birth to her 5 children there. Very modern? Charles never divorced his ex-wife, but gambled that she, who never left England, would be dead by 1895 when he and Bessie eventually married, in Fitzroy, just north of Melbourne CBD. On the marriage certificate, Charles declared himself "widower". Bessie, who in all records in Victoria before this wrongly called herself "Mrs Norman", for the first time honestly declared herself "spinster". I researched all this thoroughly, with the help of my cousin Wendy, who found the Fitzroy document only recently. Thanks Wendy: I'd given up searching records five years after they had their last child (Freddie). Bad luck, Charlie boy – you missed out by 2 years: your ex- lasted in Devonshire until her demise in 1897. So, clever property survivors can be all types of people, even bigamists! NRN]

NNBEVEP4: Neville Norman's Business Essentials Virus Economics Paper #4

Neville Norman's Analysis of the Scope Forecasts Updated for the Virus April 2020

Sixteen of us gave updated date for GDP growth the next 2 quarters, unemployment rates (I just used those for June 2020) and Federal Budget deficits for 2019/20 and 2020/21.

The simple (arithmetic) means for the GDP numbers are -0.81% for the March quarter and -8.33% for the June quarter. All but 2 of us say 'recession' by June, or when the June data are released – August/September. The ranges are -2.5% to +0.1% for March, and -2% to -13% for June.

Using my 'diving-judge' approach – ignoring the extreme highest and lowest numbers, the means are -0.75% and -8.24%, with ranges -2 to zero for March and -13% to -3.5 for June.

Everyone has significant negatives for the June quarter, which we're now in, which is understandable because only the back-end of the March quarter copped the restrictions.

For unemployment rates at end June, 2020, the mean is 10% exactly, with range 7.8% to 13%. On the diving-judge approach we have a mean of 9.38% and a range 7.9% to 11.40%.

The current year Federal deficit has no hope of a 'delivering a surplus', and in my view it never did. The full panel's mean number is $87bn, with a range $40bn to $130bn. On the diving-judge basis, the mean is still $87bn but the range is $65bn to $125bn, which is my assessment makes more sense.

For the coming fiscal year – God knows what will happen, but we're all Gods, so here are the (speculative) numbers:

A mean of $140bn for 2020/21 with a range of $55bn to $300 bn. On the diving-judge basis, a mean of $134bn and a range of $60bn (which is me) to $210bn (certainly NOT me).

All but three of us have next years' budget deficit (significantly) greater than this year's biggie. I'm one of the 3! It's not blind optimism. I do see most of 2020/21 as a (fiscal) year of substantial recovery, especially in Australia, if these restrictions do their job and don't hang around too long. Let's see.

Neville Norman – Melbourne (mostly), but Cambridge England (now, and quarantined for 'X' more months)

8th April 2020

My workings are here for all to see – overleaf:

Scope Update data 3 Apr 2020

Forecasters	Affiliation	Growth% GDP Mar	Growth% GDP June	June 2020 unNt %	2019/20 $bn Deficit	2020/21 $bn Deficit
S Koukoulas	Market Economics	-0.50%	-5.00%	9.00%	40	100
S Keen	Uni Kingston	-1.00%	-15.00%		100	300
D Plank	ANZ	-0.20%	-13.00%	13.00%		
S Auld	JPMorgan	-0.40%	-9.70%	11.40%	75	150
J Madsen	Monash Uni	-2.50%	-13.40%	10.00%	50	100
N Norman	Uni Melbourne	**-1.50%**	**-3.50%**	**9.75%**	**95**	**60**
S Eslake	Independent	-0.90%	-9.00%	8.20%	100	140
S Hunter	BIS Oxford Economics			11.30%		
S Oliver	AMP Capital	-2.00%	-10.00%	9.50%	130	200
S-L Ong	RBC Capital Markets	-0.60%	-5.40%	8.50%	125	130
J Dixon	Victoria Uni	0.00%	-5.00%	13.00%	80	60
R Cassells	Curtin Uni	0.10%	-10.20%	13.00%	65	140
S Anthony	Industry Super	-0.90%	-2.80%	7.90%	67	55
W Evans	Westpac Bank	-0.70%	-8.50%	9.00%	100	210
P Bloxham	HSBC Bank	-0.60%	-6.90%	8.60%	120	160
G Aird	Commonwealth Bank	-0.40%	-7.50%	7.80%	72	153

ave/mean	**-0.81%**	**-8.33%**	**10.00%**	**87**	**140**
Lowest - all	-2.50%	-13.40%	7.80%	40	55
Highest - all	0.10%	-2.80%	13%	130	300
ave/mean no Xts	**-0.75%**	**-8.24%**	**9.38%**	**87**	**134**
Lowest - no Xts	-2.00%	-13.00%	7.90%	65	60
Highest - no Xts	0.00%	-3.50%	11.40%	125	210

Xts means extreme highest and lowest: grey shaded

NRN is yellow highlighted

15%

PS Close analysis shows that the unemployment and growth forecasts of some of the panellists are not consistent – see my technical note on the links here. E.g. large GDP drops like 15% in the first 6 mon5ths of 2020 do not fit with unemployment rates not rising above 10% - see the last section of NNBEVEP #2. Added 9Apr2020