COVID-19 – uncertainty and our economy

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910,000 cases worldwide, 46,000 deaths, the human health numbers associated with COVID-19 are sobering.[1] The numbers associated with the economic impact, once calculated, will only confirm the seriousness of the situation we find ourselves in.

New Zealand thankfully has been spared the worse of the human health impact to date; however, the country is likely to experience a significant economic impact. The economic impact in New Zealand of the COVID-19 outbreak (including the preventative measures) will occur through various channels. Some people will be unable to work, either because they are ill, or because their occupation does not lend itself to working from home while preventative measures are in place—this reduces the productive capacity of the economy, as does the loss of the defunct capital of firms that go out of business. In the present lockdown situation in New Zealand, an inability to undertake normal spending owing to store closures is reducing consumption;[2] as will the inevitable job losses by reducing incomes, increasing precautionary savings and restricting the ability of people to obtain credit. Exports will fall significantly, in part reflecting significantly lower visitor numbers. Firms will put off investment as demand for their goods and services falls. All these channels are important. However, today I want to talk about another channel through which the outbreak of COVID-19 will impact on the economy: an increase in uncertainty.

Although every event that results in heightened uncertainty is different, study of the previous events might provide some useful insights. I, with some co-authors, have previously looked at the impact of heightened uncertainty on the New Zealand economy using a statistical model. In this post, I want to briefly summarise some of the key findings.[3]

Figure 1, at the end of this post, shows the impact of a one standard deviation shock / increase to uncertainty. For context, the uncertainty shock the world faced in the Global Financial Crisis was about a three standard deviation increase on the measure of uncertainty we used. It is likely the COVID-19 outbreak will result in a similar, or even larger, increase in uncertainty. What are the key takeaways from Figure 1? The volume of GDP will fall and this fall will be primarily driven by a fall in investment. Unemployment will increase and inflation will fall. The volume of exports will increase relative to a counterfactual of no uncertainty increase.[4] The increase in exports, which is perhaps surprising, reflects two factors. Under the conditions of heightened uncertainty, money tends to follow to safe-haven currencies, such as the USD, and away from currencies such as the NZD. Secondly, commodity prices

[1] As at 1 April 2020 https://coronavirus.jhu.edu/map.html.
[2] Although some of this demand for consumption goods and services will remain pent up and will be acted on when shops open. I can buy a new car later, for example.
[3] Kamber, G., Karagedikli, Ö., Ryan, M., & Vehbi, T. (2016). International spill-overs of uncertainty shocks: Evidence from a FAVAR. CAMA Working Paper No. 61/2016.
Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2848034
[4] Exports may still fall but this will reflect other channels than the uncertainty channel (such as lower incomes in countries we export to).

tend to fall. Together these effects lower the price of New Zealand exports, increasing the demand for them. Although not evident in Figure 1, the paper also found that the key mechanism through which global uncertainty transmitted to the New Zealand economy was via expectations and confidence. Indeed, one of the key findings of the paper is that it is via expectations and confidence, rather than trade, through which global uncertainty has its most pervasive effects on the New Zealand economy.

If the increase in uncertainty is in line with the Global Financial Crisis, our estimates imply a 0.3 per cent fall in GDP relative to what it would have been otherwise. This seems out of line with economic forecasters estimates for the fall in GDP to range between 10 per cent and 33 per cent in the second quarter of this year.[5] However, the estimates of economic forecasters reflect the combined impact of all of the channels discussed in the opening paragraph – not just the uncertainty channel quantified in our paper; it is clear the impact on the economy through the non-uncertainty channels will be large. A 0.3 per cent fall in GDP owing to COVID-19 from the uncertainty channel is also probably an underestimate. Our statistical model was estimated over a sample when monetary policy was not constrained by a zero lower bound.[6] Our model shows the Reserve Bank cutting its Official Cash Rate and this acts to cushion the impact of the uncertainty shock. Given prior to the COVID-19 outbreak, the official cash rate was 1% and given the RBNZ needs to also respond to a significant fall in demand, monetary policy may not be able to offset the impact of uncertainty as it does in our modelling—this means uncertainty's impact on GDP and unemployment will be larger.[7]

Investment is the key channel through which uncertainty will impact on the economy according to our modelling. Avinash Dixit and Robert Pindyck pointed out that under heightened uncertainty where there is a higher possibility that a key decision variable (output price, input cost etc) could change adversely in the future, firms might delay an investment even with *a positive Net Present Value*.[8] Why delay? To get more certainty about the future path of key variables that the investment decision depends on. In making the decision to delay, firms weigh up the foregone return on investment over the delay period versus the value of more information from waiting.

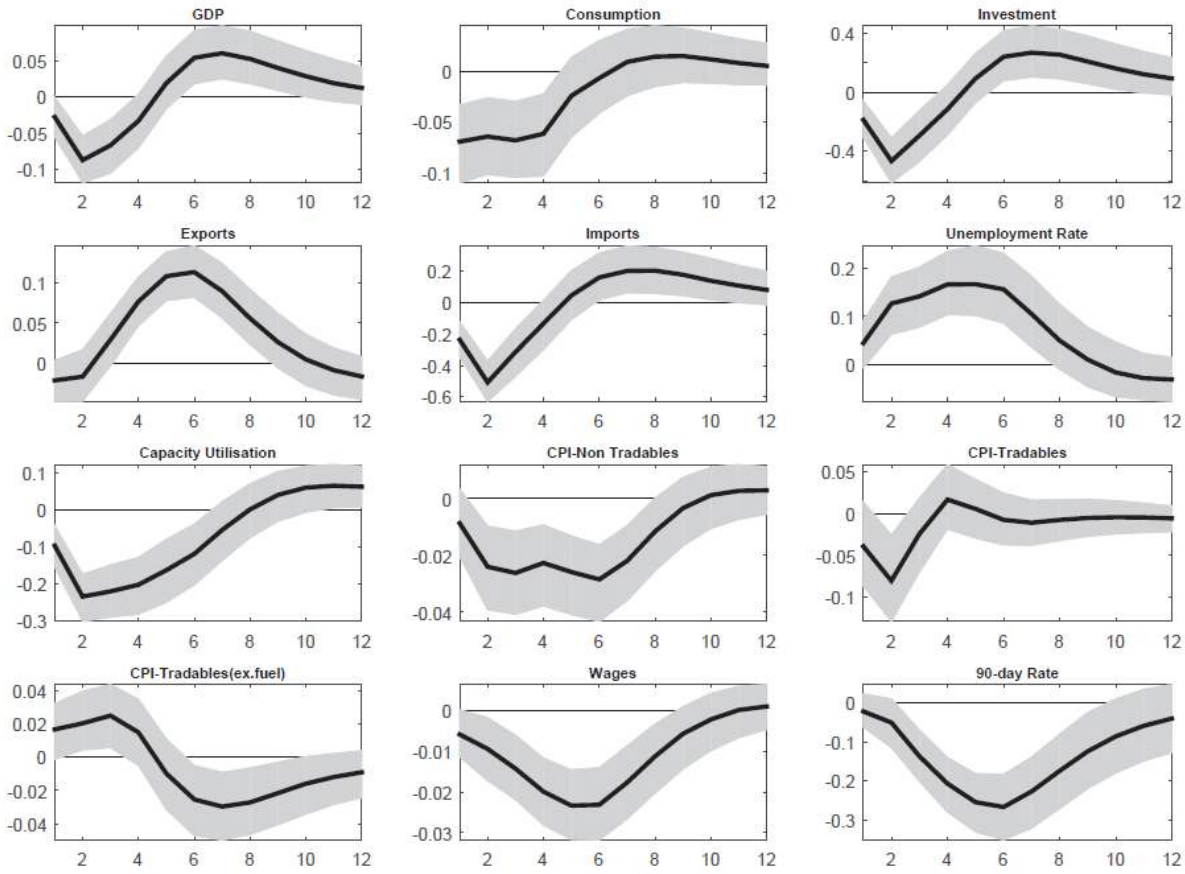
This points to an important role for government. If government wants investment not to fall too sharply, it must make sure that policy is not a source of uncertainty that could lead to delay in projects. Government policy after all can affect key decision variables like input and output prices directly (via taxes for example) or indirectly (via compliance costs for example). Bernanke (2020), drawing on Campbell et al (2012),[9] offers a framework for thinking about monetary policy which has broader applicability for reducing policy uncertainty as the government responds to the COVID-19 outbreak. Bernanke talks of policy-makers giving *Delphic* guidance; this is guidance that helps the public understand the information set and policy plans policy-makers are operating from—the oracle needs to be available to all. In this respect, the release, by the Ministry of Health, of the spread and health modelling reports was a good start (see https://www.health.govt.nz/publication/COVID-19-

[5] https://www.stuff.co.nz/business/120694809/unemployment-wont-fall-back-to-5pc-for-four-years-bnz
[6] Negative interest rates are an option, the Reserve Bank has ruled them out for now however.
[7] The Reserve Bank has implemented alternative monetary policy measures that will help; as will the fiscal stimulus supplied by the government.
[8] Dixit, A. K., Dixit, R. K., & Pindyck, R. S. (1994). *Investment under uncertainty*. Princeton university press.
[9] Bernanke, B. S. (2020). The New Tools of Monetary Policy American Economic Association Presidential Address. Campbell, J. R., Evans, C. L., Fisher, J. D., Justiniano, A., Calomiris, C. W., & Woodford, M. (2012). Macroeconomic effects of federal reserve forward. *Brookings Papers on Economic Activity*, 1-80.

modelling-reports). Bernanke also refers to *Odyssean* guidance—a commitment by policy-makers to conduct policy in a specified, state/ scenario contingent way in the future. Policy-makers need to be tied to the mast. This might take the form of a commitment to release certain regions from lockdown if they have no new cases for five days or the conditions under which certain businesses will allowed to reopen.

Conducting policy using Delphic and Odyssean guidance will help reduce one source of uncertainty for firms. It might also improve expectations and confidence about the future (offsetting the key channel from our research through which heightened uncertainty impacted on the New Zealand economy). New Zealand has avoided the worst of the health impact of the COVID-19 outbreak to date. Hopefully clear policy guidance will help New Zealand avoid the worse of the economic impact.

Figure 1: The impact of a one standard deviation shock / increase to uncertainty



Notes: The solid line represents median responses of the variables to a one standard deviation increase in the innovations to uncertainty. The shaded area represents the 68 per cent confidence bands of the estimated median impulse responses.