# **BELL POTTER**

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### **Coronavirus analysis & outlook**

Western Europe, Victoria, lockdowns, global themes & more

### Western Europe suggests Victoria's cases will continue falling

After analysing Western European data, their collective outcome suggests that Victoria's lockdown measures will drive down its coronavirus cases (at least in the short-term). An extrapolation of the data points to Victoria's current wave likely peaking on 5 August, and that its 7-day average local cases may fall to ~75 by ~mid-September. The analysis also suggests that Stage 4 lockdowns were not necessary to contain Victoria's outbreak.





#### Australia may see a period of stability, but Europe shows fragility

With NSW so far seeing success at restricting growth in its outbreak, Australia may benefit from a period of stability in cases, particularly as it moves out of winter. Though despite supressing its first outbreak, **Europe is now experiencing a 2nd wave**, which **calls into doubt the long-term sustainability of a severe suppression strategy, with continued lockdowns not a sustainable long-term solution.** Impacts are already being seen in Victoria via huge spikes in crisis hotline contacts.

#### Regions adopting elimination strategy face indefinite isolation

The continued adoption of elimination strategies across Australian states excluding Victoria and NSW, risks permanent isolation from Victoria, NSW, and the world, and at the very least, the continued maintenance of strict 2-week quarantine requirements. This comes as the rest of the world gradually comes to terms with the inevitability of the virus' spread. Past pandemics, such as the 1968 Hong Kong flu and 2009 swine flu virus', continue to remain in circulation today. Herd immunity unfortunately remains the only way to normality, and **areas that have adopted an elimination strategy face indefinite world isolation and as seen in NZ, continued risks.** 

#### Vaccine unlikely to be the magic bullet

Dr Fauci, Director of the US NIAID, recently stated that the chances of a potential vaccine being highly effective are not great, while the FDA has claimed a vaccine that is only 50% effective will be approved. Ineffectiveness would be in-line with the seasonal flu vaccine, with the CDC estimating it was only 29% effective in the USA's 2018-19 flu season. As opposed to preventing infection, a potential vaccine will instead likely be touted as simply helping to control the spread.

#### Community sentiment crucial to predicting the pathway forward

The potential for further lockdowns, or a re-opening will ultimately be driven by community sentiment, which is likely to evolve over three key phases: 1) fear of the unknown and desire for severe suppression (or elimination); 2) gradual realisation of overall costs and lockdown fatigue; and 3) realisation of the inevitable outcome and drive for normality. China is currently in the 3rd stage, and has likely been there for some months, as the country fires up its economy and returns to normal. This will enable it to further cement its status as a world power, as other nations languish under restrictions. Much of the USA is now also in stage 3, with 9m new jobs created during the past 3 months as the nation re-opens.

### European approaches varied between nations

While most countries in Western Europe imposed at least some form of restrictions, not all imposed lockdowns, the most notable example being Sweden, but the Netherlands also adopted a lighter touch. Other Nordic nations, such as Denmark, Finland and Norway, also did not impose restrictions that were as severe as nations like Italy and Spain, and would likely best be described as something more akin to a Level 2/Level 3 response under the Victorian model. Nordic nations also have some of the lowest mask wearing rates worldwide.

#### Western Europe took ~3 weeks from restrictions to peak

Irrespective of whether a 'hard style' (i.e. Victoria's Stage 3/4 measures) or a 'soft style' (i.e. Victoria's Stage 2/3 measures) lockdown was chosen, it took an average of about 20 days from when restrictions were first implemented, until a peak in virus cases were seen. Interestingly, those countries that adopted a hard lockdown saw a bigger peak in average 7-day cases of 5.8x (versus the average on the day lockdowns were implemented), while nations that adopted a 'softer style' lockdown saw a 3.7x increase.

We note that:

- Germany has not been included due to variations in measures between regions.
- Portugal has not been included due to the difficulty in determining the exact lockdown style implemented.
- The Netherlands has not been included as the extent of its restrictions are unclear, though they definitely appear to be on the softer side.
- Sweden has not been included as it did not implement a broad lockdown nor pursue the aggressive suppression strategy targeted by other Western European nations.

We note that it is not always clear cut as to which country should be placed in each category, given that measures were not uniform. Switzerland for instance has been classified under the 'softer-style lockdown', but its approach is likely somewhere between the harsh measures imposed in some European nations, and the softer approach of the Nordic nations (i.e. while there were widespread business closures, there was no national lockdown in place, with gatherings up to 5 still allowed).

Figure 1: Days a	nd extent of pe	ak vs initial lock	down Figu	Figure 2: Days and extent of peak vs initial lockdown					
Hard-style lockdown	Days until 7- day average case peak	7-day avg. case peak vs day of lockdown		Softer-style lockdown	Days until 7- day average case peak	7-day avg. peak vs day of lockdown			
Austria	13	6.9x		Denmark	22	3.0x			
Belgium	25	5.7x		Finland	24	4.1x			
France	16	6.1x		Norway	17	3.7x			
Ireland	19	4.4x		Switzerland	17	4.1x			
Italy	17	5.5x		Average	20.0	3.7x			
Spain	16	6.4x			SOURCES: OURWORLDIND	ATA.ORG, BELL POTTER			
United Kingdom	32	5.4x							
Average	19.7	5.8x							

SOURCES: OURWORLDINDATA.ORG, BELL POTTER

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### 6 weeks enough to materially reduce the spread

Across Western Europe, 7-day average cases were on average, 58% below their peak levels, 6 weeks after lockdowns were initially implemented. While a large reduction from peak levels, cases were on average still well above the levels recorded at the time lockdowns began (113% greater). Though after a few more weeks, cases returned to levels well below those seen at the beginning of the lockdown. 10 weeks out from the initial lockdown dates, cases were on average 31% (median 49%) below levels seen when lockdowns were initially announced.

#### Figure 3: Variation in cases at different lengths of time after lockdown

	7-days avg. cases at lockdown	7-day avg. cases at peak	7-day avg. cases 6 weeks after lockdown	7-day avg. cases 10 weeks after lockdown	Avg. case change 6 weeks after lockdown	Avg. case change from peak, 6 weeks after lockdown	Avg. case change 10 weeks after lockdown
Austria	108	752	68	41	-37%	-91%	-62%
Belgium	281	1606	640	202	128%	-60%	-28%
Denmark	109	328	165	55	52%	-50%	-49%
Finland	40	165	104	33	160%	-37%	-18%
France	746	4537	1588	339	113%	-65%	-54%
Ireland	205	903	244	41	19%	-73%	-80%
Italy	1019	5643	3102	867	204%	-45%	-15%
Norway	76	281	79	13	4%	-72%	-83%
Portugal	117	803	421	225	260%	-48%	92%
Spain	1242	7902	2380	632	92%	-70%	-49%
Switzerland	261	1069	179	21	-31%	-83%	-92%
United Kingdom	904	4846	4469	1558	394%	-8%	72%
Median					102%	-63%	-49%
Average					113%	-58%	-31%

SOURCES: OURWORLDINDATA.ORG, BELL POTTER

#### How essential were the lockdowns?

While Western European nations that adopted broad lockdowns were able to get cases under control, there is some evidence to say that a heavy handed approach may not have been required.

For instance, those that adopted a softer touch to restrictions seem to have fared better than those that implemented strict lockdowns. These softer touch approaches generally shared more in common with Victoria's Stage 2/3 measures than its current Stage 4 restrictions.

The head of Norway's Institute of Public Health is now also of the opinion that Norway could have controlled its coronavirus outbreak without a lockdown, and that such measures should try to be avoided during a 2nd wave. This is notable given that Norway had already adopted a lighter lockdown than many.

Sweden, who likely adopted the most liberal approach to restrictions, was one of the only Western European countries in our example to not completely clamp down on the virus' spread. Instead, the nation allowed it to spread in a controlled manner throughout the nation. Despite implementing lockdowns, Portugal's curve suggests it has achieved a similar result, in that its curve has been flattened, but not completely suppressed (see Appendix 1). We note that this was the original intention of almost all nations, including Australia, where the goal was to reduce the peak, and even the spread.

In terms of the current death rate per million, Sweden's rate is above the median in Western Europe, but below the rates seen in several nations. Meanwhile, Portugal's rate is well below the median, despite also not severely suppressing its curve.

	Deaths per million at 10 Aug
Austria	80
Belgium	852
Denmark	107
Finland	60
France	465
Germany	110
Ireland	359
Italy	582
Netherlands	359
Norway	47
Portugal	172
Spain	610
Sweden	571
Switzerland	198
United Kingdo	m 686
Median	359
Average	350

Figure 4: European coronavirus death rate per million

SOURCES: OURWORLDINDATA.ORG, BELL POTTER

### An analysis of deaths from all causes

Looking at deaths from all causes can help overcome potential differences in the way coronavirus deaths are recorded between countries. While potentially difficult to analyse, these statistics will also be important to try and ascertain the longer-term consequences on death rates as a result of the lockdown measures implemented.

Looking at total deaths for the first 26 weeks of 2020 (22 weeks for Italy), vs their 2016 -19 average, shows an average increase in deaths of 6.1%, with Spain, Italy and Belgium the hardest hit. Sweden and the Netherlands follow, whilst France also saw deaths increase by more than the average. Despite not completely suppressing its curve, Portugal achieved an average death rate well below the rest of Western Europe.

Despite reporting coronavirus deaths of over 9,000, Germany's overall death rate for the first 26 weeks of 2020 remains below the 2016-19 average. This shows that while the headline number may sound bad, it needs to be put into broader context.

Please see Appendix 2 for a visual representation of the first 26 week calendar deaths going to back 2010 (or as far back as individual country records go). Note that we have thankfully not seen the huge spike that some feared if a result similar to the Spanish flu was seen, which if a similar outcome occurred, may have resulted in death rates being multiples higher in many nations.

Figure 5: Eu	ropean deaths from	all causes	s for first 26 weeks of given y	/ear
	2016-2019 average	2020	Variance	
Austria	41,812	42,856	2.5%	
Belgium	56,827	63,898	12.4%	
Denmark	27,798	27,310	-1.8%	
Finland	27,670	27,839	0.6%	
France	310,784	333,887	7.4%	
Germany	483,488	483,149	-0.1%	
Italy*	273,258	311,154	13.9%	
Netherlands	78,296	86,203	10.1%	
Norway	20,887	20,477	-2.0%	
Portugal	58,513	60,748	3.8%	
Spain	219,098	262,352	19.7%	
Sweden	45,693	50,166	9.8%	
Switzerland	34,116	34,965	2.5%	
Median			3.8%	
Average			6.1%	
	SOURCES	EUROSTAT, I	BELL POTTER	

\*ITALY FIRST 22 CALENDAR WEEKS

### Overall death rate variation highly contingent on CFRs

Many would point to the higher deaths recorded in Sweden and the Netherlands versus other Nordic nations as a reason to aggressively control the virus' spread. While the Netherlands did suppress its curve, it was more gradual than other Nordic nations.

Countering this is Portugal's death rate, which remains below the median coronavirus death rate per million, despite not severely suppressing its curve, and it having continued gradual transmission like Sweden.

As opposed to just the virus' spread, a key factor in the different number of deaths, is the wildly different case fatality rates (CFRs) seen between Western European countries.

While some may point to lockdowns being necessary in order to prevent hospitals being overrun to reduce CFRs, Sweden's hospitals have not yet been overrun. Italy's CFR has also not declined despite its hospitals often reported as being overrun during the peak stages of its initial outbreak.

One possible explanation for the different CFR rates is the extent that outbreaks were controlled/prevented in aged care homes. This remains the key source of deaths throughout the world, including nations like Sweden, with countries struggling to prevent outbreaks in such settings. It is noted that lower overall transmission would likely play an important role in also reducing the chances of aged care outbreaks.



LEGEND RANKED FROM HIGHEST TO LOWEST CFR AT END OF CHART

### Western Europe now experiencing a 2nd wave

Another vital factor to recognise, is that lockdowns have not eliminated the virus, but have only suppressed it. Given that most Western European nations moved to quickly suppress the virus, most are unlikely to have achieved herd immunity. Countries that have been considered successful at containing the 1st wave, may now be most at risk of further spread, given the low levels of immunity in such nations.

Early indications are that most Western European nations are seeing a significant uptrend in cases since the beginning of July. This may be exacerbated as summer ends, and the season moves into autumn and winter.

As noted, Portugal and Sweden are the only two nations across all of these examples, that did not sharply suppress their curves, but instead had a flattening and gradual transmission. They also happen to be the only two countries that are yet to see a spike in infections since July.

	1 Jul 20	10 Aug 20	% change
Austria	61	100	64.8%
Belgium	83	498	501.2%
Denmark	30	93	215.5%
Finland	8	19	122.0%
France	505	1429	183.0%
Germany	468	846	80.9%
Ireland	12	29	145.1%
Italy	249	357	43.0%
Netherlands	79	503	539.0%
Norway	16	37	128.1%
Portugal	343	172	-49.9%
Spain	368	3704	907.6%
Sweden	1088	272	-75.0%
Switzerland	55	150	175.7%
United Kingdom	697	876	25.6%
Median			128.1%
Average			200.4%
SOUR	CES: WORLD	OFDATA.COM.AU	, BELL POTTER

Figure 7: European 7-day average case growth since 1 July 2020

### This will be the real test of the Swedish approach

As opposed to looking solely at the 1st wave outcome, the real test of the Swedish model will not come until the pandemic is over (and likely many years after through the longer-term impact of lockdowns to physical and mental health, the economy, and social cohesion). For countries that locked down heavily, should always have had a lower coronavirus death rate and greater suppression than Sweden, if not, the lockdowns would have been complete and utter failures. But the reason that a flattening of the curve, as opposed to movements towards elimination, was the original policy stance adopted by almost every nation, was that lockdowns and elimination, are not feasible long-term strategies.

Recognising this, Sweden stuck to its approach of flattening the curve, and allowing for gradual transmission in order to build increased immunity. Closing down at every outbreak and attempting to suppress immunity, may simply create a perpetual opening and closing cycle with little prospect of natural elimination and a return to normality.

Sweden's approach instead assumes that all nations are likely to eventually reach herd immunity, so it would be better to reach that point without the additional harm of lockdowns. This would also assume that once all waves of the pandemic have passed, and all nations reach herd immunity, death rates between nations would be expected to converge (subject to variations in national CFRs as previously discussed). The lockdown approach may instead simply extend this process, severely damaging the economy and causing an untold number of severe long-term health problems in the process.

### Lockdown argument predicated on treatment hope

With lockdowns only likely to delay reaching herd immunity, as opposed to eliminating the virus and its consequences entirely, the key justification for adopting lockdowns would be to delay spread until better treatment options become available, and CFRs can be reduced.

The costs associated with continued lockdowns need to be weighed against the potentially CFR benefit, noting that major treatment breakthroughs are not guaranteed. Such an approach also raises the question, at which CFR point would it be acceptable to allow gradual transmission to take place?

### What now for the rest of Western Europe?

With Western European nations mostly already undergoing months long lockdowns in order to stem the spread of the coronavirus, with a 2nd wave now infiltrating most nations, what do they do now? Do they lockdown again? Even though their economies remain in precarious positions? How about nations and areas that are particularly reliant on tourism? Will there be exceptions for these places? Do they now perhaps contend that another lockdown may cost more lives than it may save, or that lockdowns are only delaying the inevitable? If Western European governments decide to re-enter the lockdown route, will Europeans, who have a history of freedom of movement and have enjoyed no borders within the EU, continue to comply with the measures? Recent protests across Germany suggest large and growing anti-lockdown sentiment may make achieving lockdown compliance very difficult, and perhaps impossible.





#### No guaranteed exit plan to lockdowns

And here in lies the key problem with adopting lockdowns as the main tool in virus mitigation, in that there is no clear exit plan. For each time a region enters lockdown to sharply suppress the virus, it will likely simply rear its head at a later point. A selfperpetuating cycle of lockdowns and re-openings will likely ensue under such a strategy. As opposed to stopping people from getting the virus, all that is achieved is a delay, and people will get the virus irrespectively. Instead, what may have taken one or two waves to build herd immunity, may instead take 3, 4, 5, 6, 7 or more.

While unfortunate, herd immunity remains the only clear method to overcoming the virus, just as has occurred with every other major pandemic, including the 1968 Hong Kong flu, which is estimated to have killed up to 4 million people and still remains in circulation today, as part of the seasonal flu.

As well as being a key driver behind protest movements, those hoping for a vaccine to be a silver bullet are likely to be underwhelmed. Dr. Anthony Fauci recently stated the chances of a potential vaccine being highly effective are not great. This would be inline with the seasonal flu vaccine (which the CDC reports was only 29% effective in 2018-19), and which may be rendered useless should a sufficient mutation occur. Relying on one thus risks leaving populations in a perpetual state of fear and encampment, while economies remain on life support, and government and corporate debt, global inequality and social division all grow.

All the while, China has left lockdowns firmly in the rear view mirror, as it fires up its economy and returns to normal. Nations that continue with a policy of lockdowns may soon be left far behind, and with lockdowns causing severe economic and health problems, the virus may soon become a secondary issue.

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SOURCE: CNN

### Victorian cases grow given no immunity

With community transmission rising in Victoria, it was always going to be the case that the latest Stage 3 lockdown would prove less effective than the initial one imposed in March. This is particularly true given that Victoria has very little immunity built up in the community, making any outbreak difficult to contain.



SOURCES: COVID19DATA.COM.AU, BELL POTTER

#### Western Europe suggests lockdown will reduce the spread

The experience of Western European counterparts suggests that Victoria's lockdowns should have success at reducing virus transmission, but success did not occur immediately, and it will take many weeks for a meaningful reduction to occur. Though given that many weeks have passed since Stage 3 restrictions were re-implemented, Victoria is likely to have seen a peak in its 7-day average cases.

Reasons to support the Western European experience being a good proxy for Victoria include: similarly high quality health services; generally high socio-economic standards of living; a similar life expectancy; sufficient resources to battle the pandemic; and democratic governments that would be expected to provide trustworthy data that can be relied upon.

### Victoria's key dates

In extrapolating the Western European experience to Victoria, we need to first note the key dates and numbers. These include the dates of when Stage 3 and Stage 4 lockdowns were announced, and the 7-day average case number on these days.

Figure 12	: Victoria key	lockdown dates
Victoria	Date	7-day average cases
Stage 3	9 Jul 20	108
Stage 4	2 Aug 20	478
Midpoint	21 Jul 20	291
	SOURCES: COVID	19DATA.COM.AU. BELL POTTER

A key question to answer in determining when Victoria's virus may peak, is when did its lockdown 'begin'? Given that the number of days until virus peak did not vary much between the hard or softer style lockdowns seen in Western Europe, it would suggest that the start date should be at the beginning of Victoria's Stage 3 lockdown. This is particularly true when some of the 'softer-style' lockdowns also had some things in common with Victoria's Stage 2 restrictions.

Given that 35 days have now passed since the beginning of Stage 3 restrictions, Victoria should have likely already seen a peak in its 7-day average cases.

If Stage 3 is taken to only be partly effective, and the lockdown 'date' is taken as the middle of the Stage 3 and 4 restrictions, the peak in cases would be expected to have already occurred, or imminently do so.

If Stage 3 was not at all effective and the correct lockdown 'date' begun at Stage 4, then cases would not be expected to peak for another couple of weeks and at far higher levels.

### Given recent case trends it appears that Stage 3 was effective, and that the more extreme extrapolations have been avoided.

Figure 13:	Western E	uropean lo	ckdown	outcome e	xtrapol	ation to Victoria				
Western	Days until	7-day peak	Estimate	Estimate assuming:						
European Lockdown	7-day peak	vs day of lockdown	Softer-st	yle outcome	from St	age 3				
Softer-style	20.0	3.7x	Peak:	Date	Cases	Comment				
Harder style	10.7	5 8 v		29 Jul 20	403	Not achieved				
SOURCES: OURWC	RLDINDATA.OR	G, BELL POTTER	Harder-s	arder-style example from Stage 3						
			Peak:	Date	Cases	Comment				
				29 Jul 20	624	Possible on cases, but time would be longer than average				
			Softer-st	Softer-style example mid-way through Stage 3 & 4						
			Peak: Date Cases Comment							
				10 Aug 20	1088	Assumes Stage 3 at least partly effective & softer-style peak				
			Harder-s	style example	e mid-wa	ay through Stage 3 & 4				
			Peak	Date	Cases	Comment				
				9 Aug 20	1682	Assumes Stage 3 at least partly effective & harder-style peak				
			Harder-s	style example	e at Stag	je 4				
			Peak:	Date	Cases	Comment				
				21 Aug 20	2758	Worst case type scenario, assuming Stage 3 completely ineffective SOURCES: OURWORLDINDATA.ORG, COVID19DATA.COM.AU, BELL POTTER				

### Comparison to similar spread nations likely best

If we instead focus on comparing Western European nations that implemented a lockdown at a point where the average number of cases was similar, as opposed to the lockdown measures themselves, and take Victoria's Stage 3 lockdown as the starting point, given the number of days into Victoria's Stage 3 lockdown, **it would** suggest that 7-day average cases are likely to have peaked at 525 on 5 August, 27 days after Stage 3 lockdowns were re-implemented.

Figure 14: Western Europe	Figure 14: Western Europe lockdown extrapolation to Victoria											
Similar country spread	7-day avg. cases on lockdown	Days until 7-day avg. case peak	7-day avg. case peak vs day of lockdown	Peak 7-day avg. case number								
Austria	108	13	6.95x	752								
Denmark	109	22	3.02x	328								
Finland	40	24	4.14x	165								
Ireland	205	19	4.40x	903								
Norway	76	17	3.68x	281								
Portugal	117	17	6.86x	803								
Switzerland	261	17	4.10x	1069								
Average	131	18	4.73x	620								
	7-day avg. cases on lockdown	Expected date	Expected multiple	Expected 7-day avg. case peak								
Victoria Stage 3 extrapolation	108	27 Jul 20	4.73x	511								
	7-day avg.			Actual 7-day								
	cases on			avg. case								
	lockdown	Actual date	Actual multiple	peak								
Current Victorian peak	108	5 Aug 20	4.86x	525								
	SOURCES: OUR	NORLDINDATA.OF	RG, COVID19DATA.COM	AU BELL POTTER								

#### Jumped the gun on Stage 4?

Given the likelihood that Victoria's 7-day average case growth peaked on 5 August, it would suggest that it very likely jumped the gun on Stage 4 restrictions, which were enacted just 3 days earlier, and that as shown by many Western European nations, they were not a necessary step in containing the outbreak.

#### Victorian case numbers subject to official adjustments

It is important to note that the Victorian case numbers have been subject to ongoing official adjustments. This has largely been blamed on duplication errors that are discovered over time. This is likely to result in future changes to the Victorian numbers that have been used throughout this report.

#### Where might Victoria be at the end of its Stage 4 lockdown?

In order to get an indication of where Victoria may be at the end of its Stage 4 lockdown, we will again use the Western European data as a yardstick, this time breaking down 7-day average case growth on a weekly basis.

Looking at this data (presented on the following page), one of the most critical points is that the difference between the median and the average is quite large over the first few weeks after a lockdown was implemented. This suggests country specific variation is significant in the first few weeks following a lockdown. Given that Victoria has been in lockdown for some weeks, we can further see that its experience has also varied greatly from the European example. This variance was seen in each of the first 4 weeks, with Victorian cases growing by significantly less than the European median over the first 2 weeks, but by significantly more in weeks 3 and 4.

While European cases generally peaked within 3 weeks of a lockdown (see figures 1 and 2), Victoria saw a less extreme early spike, but a curve that took longer to begin trending downwards. This downward turn did not occur until almost four weeks of lockdowns had passed.

If we were to extrapolate the median change in the Western European outcomes from week 5 onwards to Victoria's numbers, 7-day average cases would be expected to hit 82 on 17 September 2020. The expected 13 August 2020 outcome of 372 compares to the current actual 7-day average of 395 on 12 August 2020.

Though perhaps the key observation is that while variation between countries was substantial in the early weeks following lockdowns, the variation began to significantly reduce from week 5, as countries all hit their peaks and began to move down the other side of the curve. Given that five weeks have now passed since the initial lockdown, future extrapolations using lockdown based results should become more reliable.



Figure 16: Western European 7-day average case changes following lockdowns and Victorian extrapolation											
	7-day avg. cases at lockdown	7-day avg. cases 1 week after lockdown	7-day avg. cases 2 weeks after lockdown	7-day avg. cases 3 weeks after lockdown	7-day avg. cases 4 weeks after lockdown	7-day avg. cases 5 weeks after lockdown	7-day avg. cases 6 weeks after lockdown	7-day avg. cases 7 weeks after lockdown	7-day avg. cases 8 weeks after lockdown	7-day avg. cases 9 weeks after lockdown	7-day avg. cases 10 weeks after lockdown
Austria	108	396	740	453	279	110	68	50	36	52	41
Belgium	281	770	1290	1381	1397	1202	640	427	386	258	202
Denmark	109	81	181	316	206	169	165	139	110	65	55
Finland	40	68	85	132	122	122	104	96	84	57	33
France	746	1889	3528	4263	3384	2369	1588	870	1094	483	339
Ireland	205	307	545	842	601	378	244	202	79	53	41
Italy	1019	2687	5135	5402	4401	3853	3102	2598	1789	1125	867
Norway	76	133	229	254	175	90	79	52	41	26	13
Portugal	117	273	726	714	715	562	421	197	316	217	225
Spain	1242	3833	7670	6917	4741	3047	2380	1261	1234	568	632
Switzerland	261	831	1057	880	561	332	179	117	52	36	21
United Kingdom	904	2556	4337	4601	4575	4690	4469	3267	2837	2337	1558
VIC extrapolation	108	231	334	406	493	372	276	211	147	122	82
Victorian date	9 Jul 20	16 Jul 20	23 Jul 20	30 Jul 20	6 Aug 20	13 Aug 20	20 Aug 20	27 Aug 20	3 Sep 20	10 Sep 20	17 Sep 20

9 Jul 20 16 Jul 20 23 Jul 20 30 Jul 20 6 Aug 20 13 Aug 20 20 Aug 20 27 Aug 20 3 Sep 20 10 Sep 20 17 Sep 20

SOURCES: OURWORLDINDATA.ORG	. COVID19DATACOM.AU	BELL POTTER

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	
	change vs	Total									
	lockdown	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	change
Austria	265.6%	87.0%	-38.8%	-38.4%	-60.4%	-38.0%	-27.1%	-28.7%	47.4%	-22.3%	-62.4%
Belgium	174.4%	67.5%	7.1%	1.2%	-14.0%	-46.7%	-33.3%	-9.5%	-33.3%	-21.5%	-27.9%
Denmark	-25.4%	123.8%	74.2%	-34.9%	-17.8%	-2.4%	-16.1%	-20.6%	-41.2%	-15.2%	-49.5%
Finland	69.5%	25.2%	56.1%	-7.7%	0.0%	-14.9%	-7.4%	-12.1%	-33.0%	-42.2%	-17.9%
France	153.3%	86.8%	20.8%	-20.6%	-30.0%	-33.0%	-45.2%	25.7%	-55.8%	-29.8%	-54.5%
Ireland	49.7%	77.3%	54.4%	-28.6%	-37.0%	-35.5%	-17.2%	-61.1%	-32.7%	-22.4%	-80.0%
Italy	163.6%	91.1%	5.2%	-18.5%	-12.5%	-19.5%	-16.2%	-31.1%	-37.1%	-22.9%	-14.9%
Norway	74.0%	72.3%	10.9%	-31.1%	-48.5%	-12.2%	-34.1%	-21.9%	-36.8%	-48.3%	-82.6%
Portugal	133.7%	165.5%	-1.6%	0.1%	-21.5%	-25.1%	-53.2%	60.4%	-31.3%	3.7%	92.3%
Spain	208.7%	100.1%	-9.8%	-31.5%	-35.7%	-21.9%	-47.0%	-2.2%	-54.0%	11.3%	-49.1%
Switzerland	218.5%	27.2%	-16.7%	-36.3%	-40.7%	-46.1%	-34.9%	-55.6%	-30.3%	-41.1%	-91.8%
United Kingdom	182.7%	69.7%	6.1%	-0.6%	2.5%	-4.7%	-26.9%	-13.2%	-17.6%	-33.3%	72.3%
VIC extrapolation	114.3%	44.4%	21.5%	21.5%	-24.6%	-25.7%	-23.5%	-30.2%	-16.9%	-33.2%	-24.2%
Median	158.4%	82.0%	6.6%	-24.6%	-25.7%	-23.5%	-30.2%	-16.9%	-33.2%	-22.7%	-49.3%
Average	139.0%	82.8%	14.0%	-20.6%	-26.3%	-25.0%	-29.9%	-14.1%	-29.7%	-23.7%	-30.5%
VIC extrapolation	114.3%	44.4%	21.5%	21.5%			Assumin	g median			

SOURCES: OURWORLDINDATA.ORG, COVID19DATA..COM.AU, BELL POTTER

### Extrapolation from peak cases likely best

Given the substantial variance in the initial numbers, and compression of this variance after a peak in cases were hit, conducting an extrapolation beginning from the peak in average 7-day cases, as opposed to the beginning of lockdowns, is likely to be more appropriate (but given the time that his since passed a lockdown extrapolation is now more reliable than if it was conducted from the beginning).

While only 1-week of actual results are available to plug into this model (given that Victoria only hit its current assumed peak in 7-day cases one week ago), early indications are promising, with Victoria delivering a first week result in–line with the overall Western European median. The overall difference between these two extrapolations is not overly materially, but noticeable (estimated 7-day average cases of 82 on 17/09/20 using lockdowns as the base versus 74 cases on 16/09/20 using the peak in cases as the base).

This extrapolation suggests 7-day average cases may hit 28, by mid-October. We do note that the further out this extrapolation is taken, the less reliable it is likely to be. This is because most European nations hit their trough level of cases around the end of this time period, and soon began to see cases trend upwards. The beginnings of this can be seen in the higher number of positive weekly changes over the last few weeks of data, with greater variation seen between countries. This also means that extrapolations beyond this point are not feasible.

As numbers approach low levels, minor variations between countries are likely to have a significant overall impact. This is likely to be particularly pertinent for Victoria given the high level of testing it conducts, which will generally make achieving such low levels of cases more difficult versus its Western European counterparts. This is discussed in detail in the succeeding case positivity section.



#### Stage 3 should be certain, Stage 2 unclear

A move to Stage 3 restrictions should at the very least occur by the end of current Stage 4 restrictions, with Stage 4 not needed to begin with. A move to Stage 2 restrictions would depend on whether an elimination strategy is chosen. This is uncertain given the Victorian governments preference for harsher, as opposed to lighter measures. **The potential move to an elimination strategy has no worldwide evidence of being achievable or sustainable over the long-term.** 

### **BELL POTTER**

Figure 18: We	estern Eu	ropean <mark>7</mark> -	day avg. c	ase chan	ges follov	ving 7-day	avg. cas	e peak an	d Victoria	n extrapol	ation
	7-day avg. cases at peak	7-day avg. cases 1 week after peak	7-day avg. cases 2 weeks after peak	7-day avg. cases 3 weeks after peak	7-day avg. cases 4 weeks after peak	7-day avg. cases 5 weeks after peak	7-day avg. cases 6 weeks after peak	7-day avg. cases 7 weeks after peak	7-day avg. cases 8 weeks after peak	7-day avg. cases 9 weeks after peak	7-day avg. cases 10 weeks after peak
Austria	752	496	292	122	67	48	44	52	38	33	26
Belgium	1606	1149	849	452	439	300	217	167	120	100	96
Denmark	328	183	176	157	139	98	64	52	42	35	40
Finland	165	103	129	94	98	70	44	34	24	19	9
France	4537	3580	3451	1849	1327	1244	512	444	272	847	494
Ireland	903	589	512	285	165	131	70	44	17	16	8
Italy	5643	4958	4055	3616	3005	2213	1485	1034	701	532	326
Norway	281	220	111	93	62	43	41	14	16	15	13
Portugal	803	798	507	607	297	274	188	231	249	289	316
Spain	7902	6191	4351	2908	2096	1021	1144	541	603	525	291
Switzerland	1069	757	451	252	156	77	48	33	15	17	19
United Kingdom	4846	4604	3830	3087	2490	1808	1396	1049	991	843	641
VIC extrapolation	525	394	307	214	154	109	74	56	41	36	28
Victorian date	5 Aug 20	12 Aug 20	19 Aug 20	26 Aug 20	2 Sep 20	9 Sep 20	16 Sep 20	23 Sep 20	30 Sep 20	7 Oct 20	14 Oct 20

SOURCES: OURWORLDINDATA.ORG, COVID19DATA.COM.AU, BELL POTTER

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	
	change vs peak	change vs week 1	change vs week 2	change vs week 3	change vs week 4	change vs week 5	change vs week 6	change vs week 7	change vs week 8	change vs week 9	Total change
Austria	-34.0%	-41.3%	-58.1%	-44.8%	-28.8%	-8.6%	18.2%	-26.4%	-13.5%	-20.3%	-96.5%
Belgium	-28.5%	-26.1%	-46.8%	-2.8%	-31.7%	-27.8%	-23.0%	-28.2%	-16.3%	-4.6%	-94.0%
Denmark	-44.3%	-3.8%	-11.0%	-11.0%	-29.8%	-34.2%	-19.3%	-19.8%	-15.8%	13.5%	-87.9%
Finland	-37.6%	25.8%	-27.6%	4.7%	-28.7%	-36.9%	-22.7%	-31.0%	-20.0%	-54.5%	-94.8%
France	-21.1%	-3.6%	-46.4%	-28.2%	-6.3%	-58.8%	-13.2%	-38.9%	212.0%	-41.7%	-89.1%
Ireland	-34.8%	-13.1%	-44.3%	-42.2%	-20.7%	-46.6%	-36.9%	-61.0%	-8.3%	-50.0%	-99.1%
Italy	-12.2%	-18.2%	-10.8%	-16.9%	-26.4%	-32.9%	-30.4%	-32.2%	-24.1%	-38.8%	-94.2%
Norway	-21.9%	-49.6%	-15.7%	-33.1%	-30.4%	-4.6%	-66.2%	14.3%	-8.9%	-8.8%	-95.3%
Portugal	-0.6%	-36.4%	19.7%	-51.0%	-7.8%	-31.4%	23.0%	8.0%	15.9%	9.3%	-60.6%
Spain	-21.6%	-29.7%	-33.2%	-27.9%	-51.3%	12.0%	-52.7%	11.5%	-13.0%	-44.6%	-96.3%
Switzerland	-29.1%	-40.5%	-44.1%	-38.2%	-50.4%	-37.6%	-31.5%	-55.8%	14.7%	12.0%	-98.2%
United Kingdom	-5.0%	-16.8%	-19.4%	-19.3%	-27.4%	-22.8%	-24.9%	-5.5%	-15.0%	-24.0%	-86.8%
VIC extrapolation	-24.9%	-22.2%	-30.4%	-28.1%	-28.7%	-32.1%	-23.9%	-27.3%	-13.2%	-22.2%	-94.7%
Median	-25.2%	-22.2%	-30.4%	-28.1%	-28.7%	-32.1%	-23.9%	-27.3%	-13.2%	-22.2%	-94.5%
Average	-24.2%	-21.1%	-28.1%	-25.9%	-28.3%	-27.5%	-23.3%	-22.1%	9.0%	-21.0%	-91.1%
VIC extrapolation	-24.9%				Ass	uminng me	dian				

SOURCES: OURWORLDINDATA.ORG, COVID19DATA..COM.AU, BELL POTTER

### Victoria's testing exaggerates daily case numbers

A key difference between Victoria, most Western European nations, and the broader world, is that Victoria's current outbreak vs worldwide comparisons, is being exaggerated by its enormous level of testing that it is currently undertaking, with Victoria's testing amongst the highest in the world. This means that it will be showing higher numbers of cases versus nations conducting lower levels of testing, including the European nations we have used for comparisons sake. This may also make achieving extremely low numbers of raw cases difficult, even if positivity rates fall, and may mean the prior European comparisons may not end up being an effective Victorian yardstick at very low levels of cases. Note that the recent drop-off in Victoria's testing rates will be helping to constrain the total number of daily reported cases. This appears to be why cases had been remaining elevated for longer, but not sharply increasing, as a rising positivity rate was being offset by a decrease in testing. Importantly, the positivity rate is now showing signs of retreat (as detailed on the following pages).

A couple of other interesting observations are that despite criticism of its testing numbers, testing in the USA remains well above most Western European nations. Further, despite widespread praise, South Korean testing numbers are in-fact very low. While its daily case growth suggests its outbreak has been controlled, numbers would likely be much higher if it adopted a testing regime similar to that of Victoria (~23x the amount of testing per person). This also suggests that many nations have become more at ease with low levels of transmission, realising that it is likely the inevitable end outcome.



LEGEND RANKED FROM HIGHEST TO LOWEST TESTING RATE AT END OF CHART

**BELL POTTER** 

A key difference in Victoria's current outbreak is that its test positivity rate continues to remain relatively low, and far below that of Western European nations during their initial outbreaks.

While this will be aided by Victoria's high level of testing, given that testing amongst many Western European nations has generally not changed substantially since April, it also suggests that Victorian transmission truly remains significantly below that of levels seen across most Western European nations during their peak outbreaks. This also means it will be more difficult for Victoria to dramatically reduce its case load, given that positivity rates are already relatively well controlled.



SOURCES: OURWORLDINDATA.ORG, COVID19DATA.COM.AU, BELL POTTER

Importantly for Victoria's suppression strategy, while test positivity rates grew materially over the past month, they are now declining. This should be a key turning point that will allow for a material fall in cases, as it did in Western Europe. The same Western European nations chosen in figure 14 on account of them implementing lockdowns at a similar average case number to Victoria, broadly achieved solid case positivity rate reductions with nations in this comparison hitting a trough average positivity rate of 0.34%. Excluding Portugal from this assumption, which is likely warranted given that it did not strictly suppress its spread, results in an average trough positivity rate of 0.17%.

This chart suggests that Western European nations had begun bringing their outbreaks under strict control by around mid-May. Finland was the only nation able to reduce its cases to 0, and this was for only a brief moment. Switzerland and Austria were each never able to reach a case positivity rate as low as Victoria's during June. Despite being able to achieve broad reductions in positivity rates, most Western European nations are now seeing a spike, and some similar to that of Victoria's. **This highlights the longer-term difficulty in keeping cases suppressed at such low levels.** 

Portugal, which did not completely suppress its curve, generally saw test positivity rates remain above 1.5%. It is interesting to further note that its declining case growth mentioned earlier, also coincides with falling case positivity rates, despite the rest of Western Europe (bar Sweden) seeing an increase in cases since 1 July.



SOURCES: OURWORLDINDATA.ORG, COVID19DATA.COM.AU, BELL POTTER LEGEND RANKED FROM HIGEST TO LOWEST POSTIVITY RATE AT END OF CHART

### Victoria likely to have difficultly hitting trough extrapolation

As noted earlier, Victoria is likely to come into some difficulty hitting the trough figure generated in the earlier extrapolation, which was based upon the time elapsed from peak cases. When looking at the trough case positivity figures of the nations in our prior chart, shows that only Denmark and Finland were able to hit the trough rate required for Victoria to hit average 7-day cases of 28, if it continues to conduct testing at current levels. Ireland came close to hitting the required positivity rate, and Norway was also able to hit a trough rate under 0.2% (0.195%). This extrapolation suggests that if testing rates remain high, Victoria may have difficulty reducing 7-day average cases below ~60.

#### But a likely reduction in testing will materially aid chances

Though one factor likely to aid Victoria in hitting such low numbers, is that as cases decline and fear subsides, testing rates will also likely fall. The impact of this can clearly be seen in June from figure 19. If testing soon returns to numbers around ~10k per day (they actually went well below this level in June), even the trough extrapolations suddenly appear quite achievable.

Figure 22: Case positivity rate c	omparisor	n assumin	g a giver	n number	of tests v	vs actual V	Vestern Eur	opean tr	oughs
Date	19 Aug 20	26 Aug 20	2 Sep 20	9 Sep 20	16 Sep 20	23 Sep 20	30 Sep 20	7 Oct 20	14 Oct 20
Extrapolated Victorian cases	307	214	154	109	74	56	41	36	28
Positivity rate - 10k tests	3.07%	2.14%	1.54%	1.09%	0.74%	0.56%	0.41%	0.36%	0.28%
Positivity rate - 20k tests	1.53%	1.07%	0.77%	0.55%	0.37%	0.28%	0.21%	0.18%	0.14%
Positivity rate - 25k tests	1.23%	0.85%	0.61%	0.44%	0.30%	0.23%	0.16%	0.14%	0.11%
Positivity rate - current 7-day avg.tests	1.41%	0.98%	0.70%	0.50%	0.34%	0.26%	0.19%	0.16%	0.13%
									Avg. excl.
Western European comparables	Austria	Denmark	Finland	Ireland	Norway	Portugal	Switzerland	Average	Portugal
Positivity rate	0.40%	0.10%	0.02%	0.15%	0.20%	1.20%	0.32%	0.34%	0.17%
				0.0115					

SOURCES: OURWORLDINDATA.ORG, COVID19DATA.COM.AU, BELL POTTER

### What's the exit plan for Australia?

### Exit of winter may provide a good run, but doubt remains

The combination of NSW's currently strong suppression, a Western European extrapolation that suggests a continued decline in new Victorian cases, and the benefit that comes from the exit of Winter and movement into Spring, may result in a period of low case growth in Australia.

Though there is always severe doubt in such a strategy playing out, with Western Europe currently providing ample evidence of the possibility for further flare ups. Achieving further reductions, and potentially considering a move towards elimination, is without precedent in Western Europe and the world more broadly. Such a task would be all the more harder for Victoria given its significantly higher community transmission.

#### VIC/NSW border likely to re-open as VIC cases decline

If Victoria continues to see its case load reduce, there should be ample scope for the border between both states to re-open, given that both states now have a small level of community transmission occurring. A possible trigger for this event is the currently likely end of Victoria's Stage 4 restrictions in the coming weeks. A move to re-open borders between Australia's two most populous states would likely be broadly welcomed by border residents and business groups.

#### What will the rest of the country do?

The rest of Australia has implemented an elimination strategy. This is likely to mean that other Australian state borders remain completely shut, or at least subject to ongoing two week quarantine requirements. Given the relative impossibility of Victoria or NSW completely eliminating the virus, this arrangement will likely remain indefinitely. **Though constitutional challenges may end up usurping border restrictions**.

#### A vaccine is unlikely to be the answer, already under control

Many may point to a potential vaccine as being the trigger for a return to normal, but this is very unlikely to prevent everyone from getting the virus, and will likely still involve herd immunity via community transmission being obtained. This comes as **Dr**. **Fauci made recent comments that the chance of a coronavirus vaccine being highly effective is "not great"** and it will simply help control the virus. With Australia already not overwhelmed by the virus, it will make little difference to its current situation. This would align with the seasonal flu vaccine, which has had poor effectiveness. Given that the FDA has said it would authorise a coronavirus vaccine as long as it is 50% effective, if the flu vaccine is anything to go by, there may be trouble in even getting one approved, with the flu vaccine estimated as being just 29% effective in 2018-19.

Figure 23: CDC estimate of seasonal flu vaccine effectiveness in USA											
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
Effectiveness	56%	60%	47%	49%	52%	19%	48%	40%	38%	29%	44%
									SOU	RCES: CDC, B	ELL POTTER

#### Return to normal likely requires virus acceptance

Given that not even a vaccine is likely to prevent people from contracting the virus, barring it simply disappearing, in order for elimination states to reunite with Australia and the world, they may be left with no choice but to accept that the virus will come with it. **A choice between permanent isolation or infection will likely be required** (assuming outbreaks do not occur anyway, as has now happened in NZ).

### Some other points to consider

When considering the effectiveness of the lockdown, it is also worth considering the hidden, but very severe impacts of factors such as:

- Increased fear, depression, stress and suicide risk from isolation;
- Immune system impacts from extended isolation;
- Short and long-term health repercussions from delayed medical appointments, diagnostic procedures and surgeries;
- Increased alcohol and drug abuse;
- Increased stress, violence and crime from unemployment;
- Impacted student educational attainment, which will have long-term repercussions throughout their life;
- Widening wealth inequality as a result of easy monetary policy to prop up economies;
- Long-lasting and structural damage to the economy which creates a myriad of societal problems including increased long-term unemployment and poverty.

Past studies have suggested that a 1% increase in the US unemployment rate can lead to ~40,000 excess deaths. A ~10% increase in the US unemployment rate (which has been seen in recent months), may therefore kill many multiples more than the coronavirus. A similar phenomenon is likely to play out around the world.

#### Are we already seeing this play out in Victoria?

A key thing about much of these problems, is that their impact is likely to be longlasting and felt over many years. This may result in much of these future numbers being caught up in the 'noise' of the broader data.

Despite this, Victoria, which has not only implemented by far the strictest lockdowns in the nation, but some of the most draconian measures in the world, is already showing signs of dire consequences.

Australia's crisis hotlines have all experienced surges in demand since lockdowns have been imposed. Lifeline has reported that it experienced a 22% increase in calls from Victoria in the days following the announcement of a re-introduction of Stage 3 restrictions. This came on top of what was already record demand for Lifeline's services since March.

In July, Beyond Blue reported a 66% increase in calls during April, a 60% increase in May and a 47% increase in June versus the prior year. The organisation noted "early on in the coronavirus pandemic, people were reporting feeling worried, uncertain or overwhelmed and they were dealing with loneliness or family pressure, in more recent times we've seen more talk of exhaustion, fatigue, and concerns about the reintroduction of social restrictions."

In August Beyond Blue provided a further update, noting that during July, **64% of calls** and webchats to the Coronavirus Mental Wellbeing support Service came from Victoria, up from 43% in June. <u>Through July, as Victoria reintroduced Stage 3</u> restrictions, contacts about anxiety spiked 50% and contacts about depression doubled.

In May, Kids Helpline reported that counsellors actioned a <u>43% increase in emergency</u> <u>'duty of care' interventions from January to April 2020 to protect children and</u> <u>young people who were at imminent risk of significant harm</u>, versus the prior year. Kids Helpline also reported a 17% increase in emergency interventions in response to a <u>young person's immediate intent to enact suicide</u>. During the month of April (when stage 3 restrictions were first implemented in Victoria), national contacts to the helpline increased by 49% vs the prior year. From March to May, Kids Helpline saw an additional 3,346 contacts versus the prior period, with 2,244 of these additional contacts talking about the most serious child safety issues relating to Child Abuse, Mental Health, Self-harm or Suicidality.

Demand for Kids Helpline services only continues to grow, with 4,502 additional contacts made from April to June versus the prior year. A total of 11,256 contacts were made between April to June concerning child abuse, mental health, self-harm and suicidality, a 33.4% increase on the prior year period.

#### Victoria sees deaths spike materially in April

Victoria has since seen the highest number of deaths in the first 6 months of the year dating back to at least 2010. This comes after a very sharp spike in April, which was well above all of the past 4 years, and came as Victoria was in a harsh stage 3 lockdown. In April, 681 extra deaths were recorded in Victoria vs the 2016-2019 average. While the exact reasons for the spike are not clear, and natural variation cannot definitively be ruled out, plausible explanations could include Victorians suffering from depression, loneliness and isolation amongst all age groups, though the elderly and those battling illnesses are likely to have been hit particularly hard, and in some instances may have potentially lost the will to continue. While February and March also saw rises versus the 4-year average, this is largely due to abnormally low 2019 numbers compressing the average, with the 2020 numbers for these months having seen equivalent readings in past years.

Deaths have declined in May and June vs the 2016-2019 average, which after a severe flu season in 2019, is likely due to a weaker than usual flu season in 2020. The severity of the 2020 flu season has also likely been reduced by increased social distancing and enhanced hygiene. With Victorian restrictions being loosened in May, an inverse of the potential spike in deaths during April may have also occurred. The extent of the June decline has also been influenced by 2019's June figures leading to a sharp rise in the comparative average.

Figure 24	4: Histor	ical Jan	to Jun r	nonthly	Victorian	death to	II from all
					2016-19		
	2016	2017	2018	2019	average	2020	Variance
January	3,104	3,310	3,541	3,949	3,476	3,464	-0.3%
February	3,062	2,952	3,344	1,872	2,808	3,356	19.5%
March	3,043	3,504	2,798	2,402	2,937	3,291	12.1%
April	3,268	2,368	2,868	3,111	2,904	3,585	23.5%
May	3,398	3,801	3,935	3,291	3,606	3,271	-9.3%
June	3,274	3,680	3,088	4,737	3,695	3,126	-15.4%
Total	19,149	19,615	19,574	19,362	19,425	20,093	3.4%

SOURCES: BIRTHS, DEATHS AND MARRIAGES VICTORIA, BELL POTTER

### A point about the 2019 flu season

While most individuals are likely unaware, both at the time and now, and simply went through this period living their lives as normal, the 2019 flu season was a bad one in Australia, which saw over 300,000 Australian's present to hospital.

While official estimates suggest that ~900 lives were lost in Australia in 2019, deaths during the Winter months in **Victoria alone** suggest a far starker winter season death toll, where **over 2,000 extra deaths** were recorded during the winter months of 2019 versus the 2016-18 average. It begs the question, what would the response have been if these numbers were repeated at every news bulletin and in every paper? Would a bad flu season have been blown into coronavirus proportions? Will these numbers receive greater coverage in the future? Will some governments react? Is this a risk that residents, business operators and investors should now be contemplating?

Figuro 25: Historical	Victorian winter death tell from all causes
i igule 20. Historical	

											2016-18	Variance	%
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	average	to 2019	variance
Winter deaths	10,493	10,025	10,226	9,644	9,932	10,627	10,356	11,163	10,404	12,731	10,641	2,090	20%
								SOUR					

#### Putting it into context

To put 2090 extra Victorian deaths into context, this would equate to Victorian deaths per million of 318, or put another way, it would be on a similar scale to the official coronavirus death toll currently recorded in Ireland and the Netherlands. It would be deadlier than the current toll recorded in Switzerland, Portugal and Germany. It is important to further note that this is merely the extra number of deaths seen during the winter of 2019 versus the average winter deaths of prior years, i.e. no additional adjustment was made to reflect for the higher deaths that are ordinarily seen every winter versus the rest of the year. Such adjustments would have resulted in a number notably higher than 318.

#### Figure 26: 2019 excess Victorian winter deaths vs coronavirus death toll

	Deaths per million at 10	Aug
Belgium		852
United Kingdom		686
Spain		610
Italy		582
Sweden		571
France		465
Netherlands		359
Ireland		359
Victoria 2019 exc	ess winter deaths	318
Switzerland		198
Portugal		172
Germany		110
Denmark		107
Austria		80
Finland		60
Norway		47

SOURCES: BIRTHS, DEATHS AND MARRIAGES VICTORIA, OURWOLDINDATA.ORG, WORLDOMETERS.INFO, ABS, BELL POTTER

It is important to also note, that despite the particularly high winter toll, the rate over the course of the year was not dissimilar to the results seen from 2016 to 2018. Any temporary panic about immediate numbers would have ultimately been seen as normal noise and variation when looked at over a longer-time period. This should be kept in mind when isolating periods of peak coronavirus deaths, as it may overplay its broader context.

Note when looking at the often quoted Victorian daily coronavirus death toll figures, ~110 Victorians ordinarily die every day, and during last year's winter season that number was 138. This number would also ordinarily be elevated during the current winter period.

Figure 27: Hi	storical	yearly V	lictorian	death ra	ites from a	III cause
					2016-19	
	2016	2017	2018	2019	average	
Yearly deaths	40.311	41.133	40.215	41.385	40.761	

SOURCES: BIRTHS, DEATHS AND MARRIAGES VICTORIA, BELL POTTER

#### Not to say corona isn't dangerous, but fear isn't a solution

This commentary isn't intended to point out that coronavirus is not a dangerous disease. Indeed for old age groups, it has shown to be particularly deadly. Debate also continues to circulate surrounding the longer-term health impacts that some individuals may be left with, even after fighting off the virus. It is certainly not something anyone would want, and the desire to avoid its spread is completely understandable.

But excessive fear, and sensationalising the problem does not help anybody. All this does is lead to further anxiety and depression, and the aggravation of tension in society, putting people against one another. It reduces the ability to have a rational debate about the broader consequences of mitigation measures, and results in negative overall outcomes for society.

Battling the virus, and maintaining sensible and rational analysis and debate, need not be mutually exclusive.

### Better treatment sees USA, Europe death rates decline

While the long-term effectiveness of the lockdown strategy remains to be seen, there are some positives that can be seen in terms of declining fatality rates across much of the world, including the USA and Europe. The case fatality ratio (CFR) reduction in the United States has been particularly solid, almost halving from its peak.

While this may be due to increased testing, improvements in treatment methods, such as a reduction in ventilator use, as well as supposed treatments, including remdesivir and dexamethasone, may also be having an impact. Additionally, evidence suggests that the virus may also be spreading more prominently amongst younger individuals, who have a far lower mortality rate.

### Strikingly different Hydroxychloroquine stances seen

Another potential treatment, Hydroxychloroquine (HCQ), has seen strikingly different responses between nations. HCQ has been in use for over **65 years** as a treatment for malaria, rheumatoid arthritis and lupus, with billions of doses likely administered over this time period around the world. The drug is on the WHO's Model List of Essential Medicines, and is sold over the counter in many nations.

Touters of its benefits point to many dozens of studies that claim that when used in combination with zinc (and sometimes an antibiotic), it is particularly effective at treating early stage infections, as well as a prophylactic treatment. This treatment is reportedly being used in many countries and regions around the world, including India, Russia, Turkey, South Korea, Africa, the Middle East and Asia.

The Western world has largely discouraged or banned its use, with detractors claiming that studies have not proven it is effective, and that it can cause side-effects, including heart arrhythmia. Negative studies have focused on late-stage, hospitalised patients. Its proponents counter these claims by noting that some of these studies have since been retracted, some used toxic doses, and that late-stage cases are not an effective use for antiviral treatments, which are instead effective at the very early stages of infection.

India has been one of the most vocal supporters of the drug, with its official health department guidelines recommending (subject to certain conditions) the prophylactic use of HCQ for asymptomatic healthcare workers in hospitals, asymptomatic frontline workers (such as police), and asymptomatic household contacts of confirmed cases. India also temporarily banned export of the drug to save supplies for its own nation, before President Trump reportedly intervened.

### Is there any noticeable difference in death rates?

While debate rages as to whether HCQ and its use with supplements such as zinc, and an antibiotic like azithromycin, is effective, countries and regions that are openly using the drug are generally experiencing far lower case fatality rates and death rates per million versus Europe and the United States, where the treatment largely remains banned or discouraged. This includes areas like India which has a high population density, including some of the densest slums in the world, as well as other poorer and less developed regions including Africa and Asia. These areas were generally considered to be at the greatest risk of dire consequences.



LEGEND RANKED FROM HIGEST TO LOWEST POSTIVITY RATE AT END OF CHART

Figure 29: COVID-19 case fatality rates in regions for/against HCQ use (excluding France, Italy and Belgium)



**BELL POTTER** 



Figure 30: COVID-19 deaths per million in regions for/against HCQ use

SOURCES: OURWORLDINDATA.ORG, BELL POTTER

LEGEND RANKED FROM HIGEST TO LOWEST POSTIVITY RATE AT END OF CHART

### The upside is huge, downside would appear limited

While we may not definitively know if HCQ is the major reason for the lower case fatality and death rates per million seen in nations that actively utilise it, it is perplexing how many nations adamantly promote its use, whilst the Western world has largely decided to severely restrict (often to late stage hospitalised patients, which is not the most optimal stage for its use), or ban its use for treating coronavirus patients. This includes Australia. While certainty not without potential side effects (which may include nausea, vomiting, diarrhea, and headaches), given the dearth of effective early-stage treatment options available, many nations are of the opinion that the potential benefits outweigh the risks.

If effective, HCQ would solve our most pressing issues being:

- 1) reducing the number of patients requiring hospitalisation, and thus the strain on healthcare resources;
- 2) reducing the viral load/length of time of infection, helping to reduce spread; and
- Providing a critical **early** treatment option for the elderly and high risk patients, where it is paramount that infections do not become serious, given their high risk of mortality.

Each of these benefits would prove of paramount importance to protecting the vulnerable and returning to a sense of normalcy. Given that the drug has been used for 65 years, and is an over-the-counter medication in many nations, what would the downside be to properly supervised delivery of the drug in situations where a doctor saw fit, as is now being done in many nations around the world? Given the experience of countries that adamantly support it, the risk appears limited. The upside on the other hand, could be game changing. Given all of this, why should we deny our aged and vulnerable, access to a potentially life-saving treatment that has already been delivered to millions of people worldwide for decades?

### **Community psychology critical**

### Data matters little if people are fearful

Irrespective of one's take on the data and the potential effectiveness of lockdowns over the long-term, if the broader population continues to remain fearful, then pressure will continue for governments to maintain tight restrictions. The areas that are least likely to see a relaxation include travel restrictions. This is true not only of international, but also inter-state borders. This is perhaps one of the defining aspects of the coronavirus, in that it is resulting in a resurgence of nationalist sentiment, and in countries like Australia, it is becoming even more extreme, where mutual relations between states are deteriorating.

#### Predicting future outcomes dictated by shifts in sentiment

Successfully planning for, and predicting future outcomes, will thus be predicated upon monitoring nuanced changes in public sentiment and behaviour. There are 3 key distinct stages to this behaviour, which ought to be monitored, and are discussed on the following page.

### The 3 stages of community sentiment

The evolution of community sentiment, and thus government responses, can be broken down into 3 distinct phases. There will be a myriad of different reasons why countries may be further along this evolution than others. Some may include the entrenched values of individual liberty, the extent of a country's coronavirus outbreak and time elapsed since the peak (people can become more comfortable with the outbreak once they better understand its extent, as opposed to hypothetical modelling which often predicts dire consequences), the length of lockdown measures (the longer the lockdown, the greater the fatigue), the size of a country's welfare net (the greater the welfare, the less urgency to re-open the country and get back to work) and historical internal political events (i.e. much of Germany suffered from political extremes not so long ago).

#### 1) Fear of the unknown and desire for severe suppression

This is the first stage of responses to the coronavirus pandemic, with many fearful of the potentially grave death toll that may take place. Given widespread individual fears and anxiety, the populace is primarily concerned with minimising virus spread. They will thus advocate and support draconian measures such as lockdowns. Australia currently remains in this stage on account of its very low transmission and overall deaths, with most areas being relatively untouched. Individuals continue to widely support the adoption of an elimination strategy by some states.

Island nations like Australia and New Zealand, who can easily isolate themselves from overseas populations, are particularly prone to remaining in this phase, given their easier ability to severely suppress, and try elimination via enforcing hard borders. Any nations that have success will have to choose between isolation or infection.

#### 2) Gradual realisation of overall costs, and lockdown fatigue

Once a virus wave plays out, and people are able to comprehend its consequences, the fear of the unknown begins to gradually dissipate. A rational debate surrounding the very real consequences of lockdown measures to physical health and mental wellbeing can now take place. As individuals have been locked down for considerable periods, they become fatigued of lockdown measures, and once again begin to have a thirst for freedom. Most of Europe is now at least in this position, as well as largely all of the United States. Victoria is likely to enter this phase in the coming weeks.

#### 3) Realisation of inevitable outcome and drive for normality

After a significant wave of coronavirus spread, it will become clear to most individuals that further lockdowns and restrictions will only delay the inevitable (herd immunity), and that delaying the outcome via lockdowns, likely causes further destruction to life, via damage to physical and mental wellbeing, as well as the economy (which also impacts physical and mental wellbeing), than can be saved.. Much of the United States is now in this phase. Sweden has likely been in this phase from the very beginning of the pandemic. While driven by centralised leadership, China appears to have been in this phase for months, with its economy now well and truly fired up and life returning to normal.

The quicker countries move to a stage 3 position, the quicker they will be able to recover from the crisis, build immunity, and forge a prosperous future. Likely being fully of this aware of this, China's comparatively swifter moves to return to normal will allow it to get a jump-start on the rest of the world, despite being the epicenter of the pandemic. Countries that instead remain stuck in phase 1) or 2) for extended periods of time are likely to experience comparatively larger increases in public and private debt, a severe weakening of economic foundations, and elevated physical and mental health problems that plague such nations for many years to come.

### **Key points**

- 1) Western European experiences suggest Victoria's current wave of cases has likely peaked.
- 2) Victorian new case growth is likely to be significantly lower at the end of its 6-weeks of Stage 4 restrictions, paving the way for a return to looser measures.
- 3) Most Western European nations are now experiencing another wave in infections.
- 4) The only Western European nations that have seen a decline in 7-day average case growth since 1 July are Sweden and Portugal. The curves of these countries show that neither severely suppressed virus spread, but instead flattened the curve and maintained a gradual spread of the virus.
- 5) There appears to be no effective exit plan to the lockdown and severe suppression approach adopted by most nations, with a yo-yo of case suppression and case growth forming.
- 6) As nations impose lockdowns, and curtail travel, there is likely to be an increase in nationalist sentiment on a global basis.
- 7) With lockdowns causing unprecedented economic consequences, associated stimulus measures will cause a huge spike in inequality via asset price inflation and lead to further social unrest and division.
- 8) Lockdown fatigue, mental and physical health damage, the extreme cost to economies, and the yo-yo nature of lockdowns & infections, may result in further lockdowns becoming untenable.
- 9) Many studies now suggest that asymptomatic transmission is very significant, including the CDC, who believe unconfirmed cases are at least 10x higher than confirmed cases in the USA. The approach of nations like Sweden may thus be vindicated in the longer-run if herd immunity is reached sooner than many have anticipated.
- 10) If herd immunity is found to be more achievable than first anticipated, economies of nations where significant community transmission has taken place (i.e. Sweden and the <u>United States</u>), may be amongst the first economies to bounce back and return to normal.
- 11) In addition to perhaps being more achievable than first anticipated, herd immunity is likely the inevitable outcome over the long-term. This is likely to occur irrespective of a vaccine, given doubt around its ability to be highly effective. Despite the health consequences of the virus, and potential longer-term health impacts, there is no real alternative to herd immunity, with this being the natural outcome for any highly transmissible virus.
- 12) Growing evidence suggests that early case fatality rates seen in Europe and the United States are trending lower. This may be a factor of improved treatments, better isolation of vulnerable populations, and the spread of the virus amongst younger and less at risk populations. This may provide further impetus to re-open economies and return to normal.

### **Key points**

- 13) While the use of HCQ remains controversial, banned or discouraged in most Western nations, others including India, Russia, South Korea, as well as broader African, Asian and Middle-Eastern nations, are reported as using the drug to great benefit and generally have lower case fatality and deaths per million versus Western Europe and the USA.
- 14) Understanding the current mood of the broader community is essential to determining which countries exit lockdowns first and begin the road to recovery.
- 15) There are essentially three broad psychological stages in the coronavirus pandemic, being 1) fear of the unknown and desire for severe suppression (or elimination); 2) gradual realisation of the overall costs and lockdown fatigue; and 3) realisation of the inevitable outcome and drive for normality.
- 16) How quickly a given nation or region moves through these stages will depend upon many factors, some of which include: the extent of entrenched values of individual liberty, the extent of a country's coronavirus outbreak and the length of time from its peak, the length of lockdown measures, the size of a country's welfare net, and historical internal political events.
- 17) Australia is largely still in the first phase, supported by its large welfare net and relative lack of community spread, leaving people fearful of the unknown and hopeful of severe suppression or elimination. Victoria is likely to begin moving to stage 2 as lockdown fatigue grows, individuals gain a greater understanding of the virus' relative dangers, and the broader physical and mental health cost of lockdowns. This is being offset by large welfare programs, which are limiting the economic pain being felt by individuals and households.
- 18) Most of Europe is now likely at least in stage 2, most of the United States is either in stage 2 or stage 3, Sweden has likely been in stage 3 from the outset, whilst China has been in stage 3 for months.
- 19) Regions that continue to pursue an elimination strategy (i.e. Australia excluding Victoria and NSW), face being isolated from the rest of the world indefinitely, in order to maintain having no cases. As New Zealand has recently shown, cases may still find a way of sprouting irrespectively.
- 20) Regions that continue aiming to severely suppress the virus' spread via aggressive lockdowns, risk causing enormous damage to their economies, and the mental and physical wellbeing of its people, and will likely end up in the same place as everyone else—with herd immunity.
- 21) This likely inevitability perhaps explains why China moved some time ago to re-open and return to normal. This will solidify its growing power and allow it to gain a significant advantage over nations who continue in their attempts to sharply compress or eradicate the virus.

### Appendix 1: 7-day avg. new cases by country



SOURCES: OURWORLDINDATA.ORG, BELL POTTER

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### Appendix 1: 7-day avg. new cases by country



**BELL POTTER** 

# Appendix 2: First 26 weeks mortality by year





2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020







2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020













SOURCES: EUROSTAT, BELL POTTER

### **BELL POTTER**

# Appendix 2: First 26 weeks mortality by year





2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



SOURCES: EUROSTAT, BELL POTTER

#### Recommendation structure

Buy: Expect >15% total return on a 12 month view. For stocks regarded as 'Speculative' a return of >30% is expected.

Hold: Expect total return between -5% and 15% on a 12 month view

Sell: Expect <-5% total return on a 12 month view

Speculative Investments are either start-up enterprises with nil or only prospective operations or recently commenced operations with only forecast cash flows, or companies that have commenced operations or have been in operation for some time but have only forecast cash flows and/or a stressed balance sheet.

Such investments may carry an exceptionally high level of capital risk and volatility of returns.

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