

Releasing Lockdown of the Sectors in a Safe and Sustainable Manner

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Introduction:

The Covid-19 (C-19) Lockdown has resulted in the temporary closure of many business sectors. The effect on the UK economy has been both significant and detrimental in all areas with the exception of the Health Sector, which is currently running at around +50% compared to normal operation¹. The issues associated with C-19 will not be going away any time soon but in order to preserve the UK economy the current lockdown measures need to be released. The question is how should this release occur?

This document has been prepared based on evidence and strategies harvested from a number of countries in a similar position to the UK. The objective being to offer a rational approach to release of sectors looking at integrating the key elements of:

- Risk,
- Economic importance,
- Social need, and
- Timing.

The four key elements:

Risk

Risk is a function of vulnerability and rate of infection. Vulnerability covers those that if exposed to C-19 are more likely to have a significant and adverse reaction due to underlying health issues or age. Rate of infection refers to the number of people that one infected person can infect without measures in place; this figure is shown by the R-value. An R-value of 1 indicates that for every 1 person infected with C-19 they will infect 1 other.

Risk therefore refers to the likelihood that the infection of C-19 will spread to a point whereby the R-value exceeds 1 which will result in an unmanageable level of demand on NHS resources and/or the number of vulnerable people infected leads to an unacceptable rise in the death rate.

Economic Importance

Economic importance is a function of two important factors:

1. The number of people employed by that sector
2. The amount of GVA that the sector brings to the Welsh economy.

¹ A sustainable exit strategy: Managing uncertainty, minimising harm (2020)

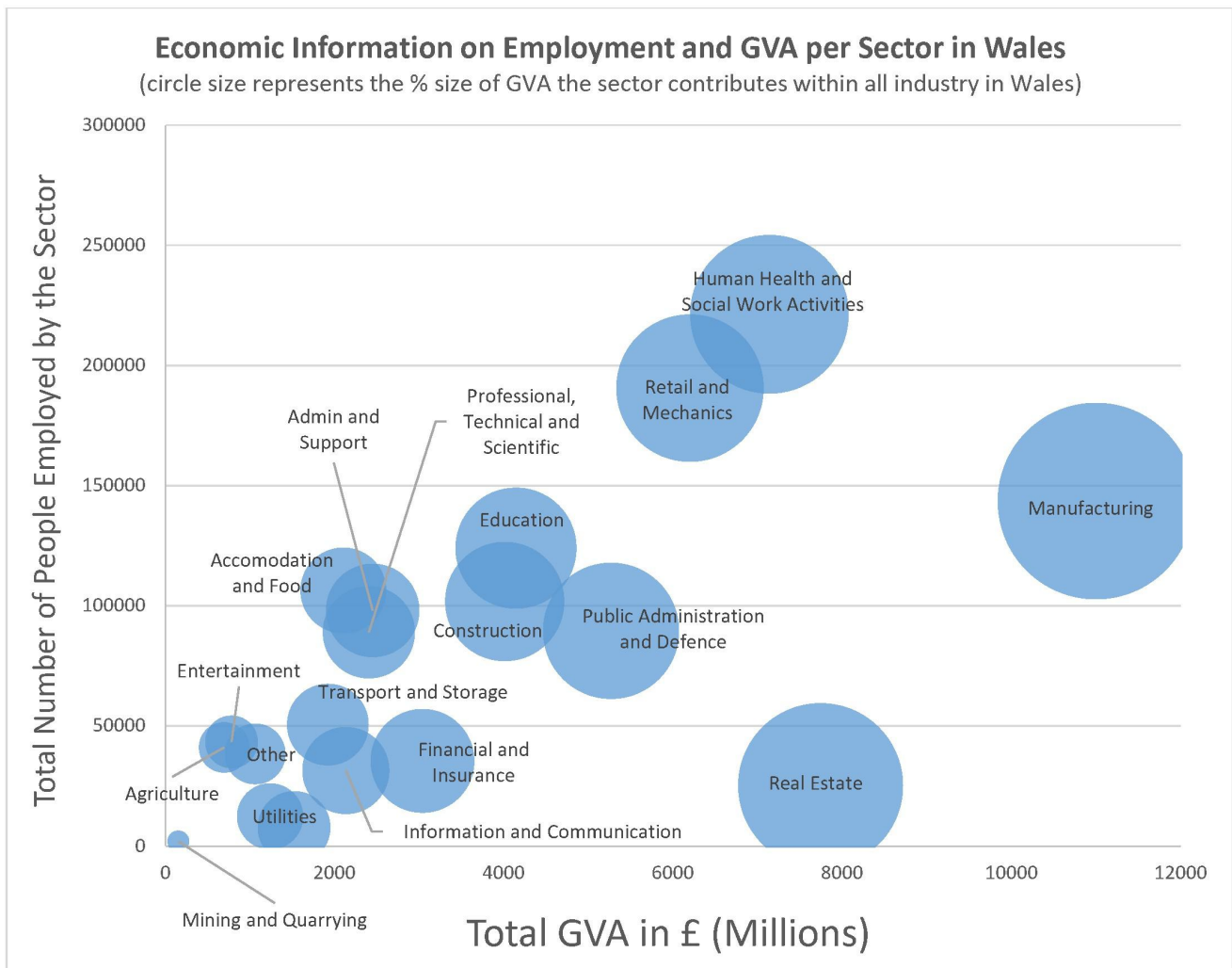


Figure 1: Diagram of Information obtained from StatsWales showing the relationship between GVA, employment and % contribution to GVA between the industry sectors in Wales.

The figure above provides the following information about the sector

- I. The Gross Value Added (GVA) in £Millions (x axis)
- II. The number of people employed in that sector (y axis)
- III. The percentage contribution of the sector to GVA when compared with all other sectors (circle size).

From the figure above, we can extrapolate that Manufacturing is one of Wales's biggest sectors. It contributes £11 billion to the Welsh economy, which corresponds to 16.9% of all industry GVA, and employs about 143,000 people. However, this diagram does not show the connections between the sectors. For example, the Mining and Quarrying sector is an extremely small employer and contributor to GVA but it is essential for the Construction sector that contributes over £4 billion to the Welsh economy (6% of all industry GVA). Another important consideration is the Education sector, which contributes £4.1 billion to the economy and employs 124,000 people, but without which all the other sectors would struggle to function.

Social Acceptance and Need

Social impacts will not affect everyone in the same manner. The World Health Organisation (WHO) has experience of the social impacts that occurred during previous pandemics and has identified four salient points:

1. Those in vulnerable social/economic situations are more likely to be exposed to the virus.
2. If infected by the virus, those in vulnerable social/economic situations are most likely to suffer adverse health issues.
3. Those in vulnerable social/economic situations are more likely to be disproportionately impacted by containment measures in the short term.
4. Those in vulnerable social/economic situations are more likely to suffer virus related long-term socioeconomic inequalities that will adversely affect their health outcomes over the course of their lives².

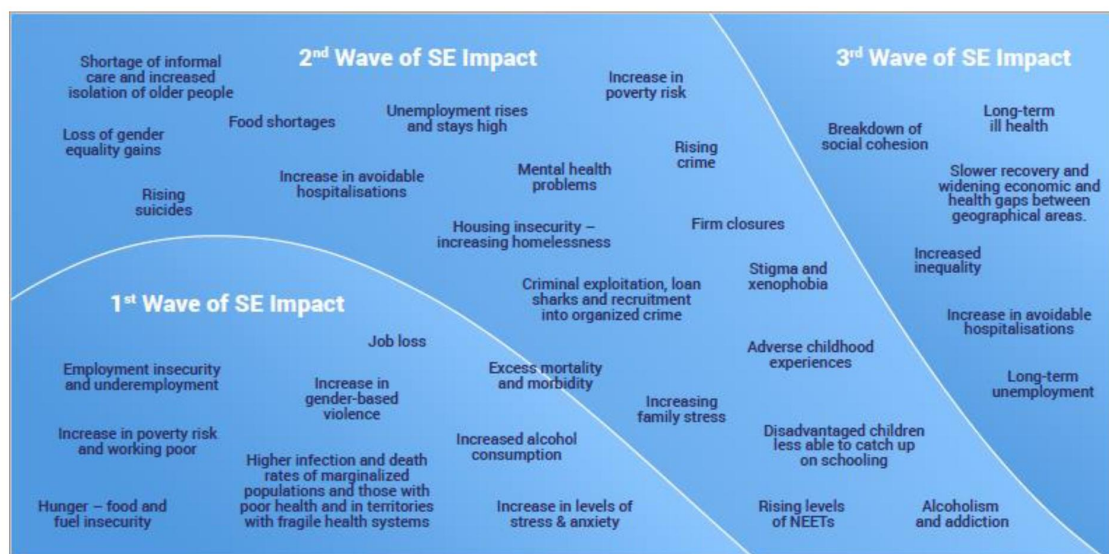


Figure 2: Waves of social and economic impact from previous pandemics (World Health Organisation, 2020)

When adverse situations occur it is those from disadvantaged backgrounds, which suffer the most, and industry sectors provide essential economic and social support to both employees and users. The education sector provides an important role reducing the divide between the advantaged and the disadvantaged as well as safeguarding children in vulnerable situations. In addition, the Human Health and Social Work Activities sector mentally and physically protects the vulnerable and the elderly supporting a better quality of life for all.

Timing

The key element to releasing lockdown is timing. It is clear from the strategies adopted by other countries that a phased release to lockdown should be implemented, and for two main reasons:

1. Covid-19 has an incubation period of between 2.5 and 12.5 days. Release of a sector will undoubtedly trigger a rise in infection that may not be registered for nearly two weeks. A significant and rapid rise in the R-value will limit our ability to respond and could cause a significant impact on the Health Sector.
2. If the R-value were to rise, any reintroduction of lockdown measures could reduce the public's trust in our ability to manage the situation effectively. Measures would be less likely to be adhered to and the political repercussions could be severe.

² Covid19 – Considerations on social and economic impacts and mitigation (2020)

Identifying the order in which Sectors are released

Element	Risk				Economic			Social	
Score	Level of contact between individuals	Ability to protect Staff	Age Group Interaction	Interaction with Vulnerable people	Economic Importance - Output to GVA in percentage share (see table below for figures)	Economic Importance - Percentage Share of Employment (see table below for figures)	Economic Importance - Enablers	Importance to Physical Well-being	Importance to Mental Well-being
5	Contact can be avoided, distancing measures can be put in place easily and would be effective	Sector is able to protect staff easily through distancing measures. These would be adequate and effective.	Users and workers within the sector are 100% under the age of 60s.	Users and workers do not have underlying health conditions and do not interact with anyone with underlying health conditions	Over 10%	Over 10%	Sector essential as other businesses rely upon it for staff and goods (public transport, agriculture, manufacturing companies, financial institutes etc.)	Sector/business is medical in nature and completely governed by the NHS	Sector/businesses are medical in nature and completely governed by the NHS.
4	Contact is minimal; distancing measures could be put in place and would be effective. Contact would be with same team of group of people on a day to day basis	Sector would need to bring in distancing measures and additional hygiene stations to promote hand washing etc.	Users and workers within the sector are 80% under the age of 60 and those over 60 can be safely segregated.	Users and workers who have or interact with individuals with underlying health conditions can be safely segregated and can continue to work effectively.	7 - 10%	7 - 10%	Sector plays a key role in supporting the running of other sectors (transportation of good / products, retailers of essential commodities such as food etc.)	Sector/business is medical in nature and comprises both public and private sector companies (chiropractors, dentists, chiropodists etc.)	Sector/businesses are medical in nature and comprises both public and private sector companies (counselling, mental health charities etc.)
3	Contact is minimal; distancing measures could be put in place and would be effective. Contact would be with different groups of people on a day to day basis	Sector would need to provide hygiene measures and also implement use of disposable masks and gloves	Users and workers within the sector require interaction with people over the age of 60 but distancing measures and hygiene measures can be effectively implemented	Users and workers who have or interact with individuals with underlying health conditions cannot be completely segregated but can be managed through safe distancing and hygiene measures.	4 - 7%	4 - 7%	Sector supports businesses (general retailers, hotels, caterers, cleaners etc.)	Sector is for physical well-being and not connected to the public sector (independent nutritionists, health food manufacturers, massage parlours etc.)	Sector/ businesses promotes healthy social interaction (community hubs, libraries, museums and other community-based facilities).
2	Contact is regular; contact would be with different groups of people on a day-to-day basis. Distancing measures would be difficult to maintain but barrier measures (gloves, masks etc.) could be effectively implemented	Sector would need to provide hygiene measures and implement use of disposable aprons, gloves, masks and visors.	Users and workers within the sector are majority in the over 60-age bracket. Distancing measures cannot be implemented but hygiene and protective clothing (mask, gloves etc.) can be implemented to reduce the risk to an acceptable level.	Users and workers who have or interact with individuals with underlying health conditions cannot be managed through distancing and hygiene measures but can reduce risk to an acceptable level through use of protective clothing such as gloves and masks.	2 - 4%	2 - 4%	Sector comprises independent or niche markets (local distributors such as book shops, haberdasheries)	Sector is for physical well-being in terms of exercise (gyms, swimming pools etc.)	Sector / Business act purely as a social venue coffee shops, pubs, bars, clubs etc.)
1	Contact with different people is constant. Distancing measures would be ineffective. Barrier measures could be implemented	Sector would need to bring in a wide range of hygiene measures including protective clothing and would also need to administer deep cleaning techniques for both premises and personnel	Users and workers within the sector are majority in the over 60-age bracket. Distancing measures cannot be implemented but additional hygiene and protective clothing (deep cleaning of facilities, visors, aprons, gloves etc.) can be implemented to reduce the risk to an acceptable level.	Users and workers who have or interact with individuals with underlying health conditions will require stringent protective clothing measures including visors, aprons and regular deep cleaning of facilities.	1 - 2%	1 - 2%	Sector is not essential for the running of other companies or retailing their product (hair dressers, beauty salons, etc.,)	Sector is used for physical well-being activities (activity venues for children, industry involved in active travel measures etc.)	
0	Contact is constant across a range of groups distancing measures and barrier measures would be of little benefit and / or prohibitive to the effective running of the sector.	Measures that would need to be implemented would be prohibitive to the effective running of the sector.	Users and workers within the sector are majority in the over 60-age bracket. Distancing measures cannot be implemented and additional measures for hygiene, protective clothing, cleaning etc. would have limited effect. Segregation would be the only option	Users and workers have or interact with individuals with underlying health conditions. Measures to reduce risk to those with underlying health conditions cannot be reduced to acceptable level and therefore segregation is the only option.	Less than 1%	Less than 1%	Sector is for leisure only (cinemas, theatres, clubs, pubs, restaurants, coffee shops etc.)		

Score									
Notes									

The blank score card above has been created to help support decisions for sector release. This is not a final document but a 'work in progress'. It can be doctored or amended as each sector sees fit to make it more pertinent to the businesses within the sector. These descriptions and the information on percentage contribution to GVA and percentage employment are based on the table below produced by information from StatsWales.

Table 1: Statistical Information on Industry Sectors obtained from StatsWales

Sector	Total (million) GVA	Number of people employed	Percentage GVA Contribution per Sector	Percentage of People employed by sector
Agriculture, forestry and fishing	693	41100	1.1	2.8
Mining and quarrying	152	2000	0.2	0.1
Manufacturing	10999	143600	16.9	9.9
Electricity, gas, steam and air-conditioning supply		7800	2.3	0.5
Water supply, sewerage, waste management	1237	12400	1.9	0.9
Construction	4010	101800	6.2	7.0
Wholesale and retail trade, repair of motor vehicles	6200	190600	9.5	13.1
Transportation and storage	1919	50600	2.9	3.5
Accommodation and food service activities	2102	106400	3.2	7.3
Information and communication	2132	31500	3.3	2.2
Financial and insurance activities	3038	35500	4.7	2.4
Real estate activities	7744	25200	11.9	1.7
Professional, scientific and technical activities	2404	89000	3.7	6.1
Administrative and support service activities	2449	98100	3.8	6.8
Public administration and defence; compulsory social security	5267	89600	8.1	6.2
Education	4143	124000	6.4	8.5
Human health and social work activities	7139	221300	11	15.2
Arts, entertainment and recreation	781	43400	1.2	3.0
Other service activities	1060	38400	1.6	2.6
Totals	63469	1452300	99.9	100.0

The scorecard is a simple tool to allow consideration of which order sectors should be released in. The table works on three of the four key elements (Row 1). The columns under 'Risk' provide a brief overview of the sectors ability to limit contact (and therefore the spread of C-19), implement measures or practices to protect its staff and the public. The columns under 'Economy' examine the importance of the sector to the economy in terms of GVA, number of people employed and by its importance to the running of other sectors. The Columns under 'Social' take into consideration the importance of the sector to physical and mental well-being.

The maximum score for each column is 5 so the total possible score for the table is 45. However if a column is not applicable then the maximum score would reduce by 5 for each column not used. For example, the construction scorecard below has highlighted boxes for each applicable description and scores 4, 4, 4, 5, 3, 3, 5. The physical and mental wellbeing columns are not applicable and therefore not used. Therefore, the total score is 28 out of 35 (80%).

Score	Level of contact between individuals	Ability to protect Staff	Age Group Interaction	Interaction with Vulnerable people	Output to GVA in percentage share (see table below for figures)	Economic Importance - Percentage Share of Employment (see table below for figures)	Economic Importance - Exclusion	Importance to Physical Well-being	Importance to Mental Well-being
5	Contact can be avoided, distancing measure can be put in place early and would be effective	Sector is able to protect staff early through distancing measure. There would be adequate and effective	User and worker within the sector are 100% under the age of 60	User and worker do not have underlying health conditions and do not interact with anyone with underlying health conditions	Over 10%	Over 10%	Sector essential as either businesses rely upon it for staff and goods (public transport, agriculture, manufacturing companies, financial institutions etc.)	Sector/business is medical in nature and completely governed by the NHS	Sector/business are medical in nature and completely governed by the NHS
4	Contact is minimal, distancing measure could be put in place and would be effective. Contact would be with some form of group of people on a day to day basis	Sector would need to bring in distancing measure and additionally give training to promote hand washing etc.	User and worker within the sector are 100% under the age of 60 and there are no contacts regularly requested	User and worker who have an underlying health condition can be effectively requested and can continue to work effectively	7-10%	7-10%	Sector plays a key role in supporting the running of other sectors (transportation of goods/products, retailers of essential commodities such as food etc.)	Sector/business is medical in nature and comprises both public and private sector companies (hospitals, dentists, chiropodists etc.)	Sector/business are medical in nature and comprises both public and private sector companies (cancer clinics, mental health charities etc.)
3	Contact is minimal, distancing measure could be put in place and would be effective. Contact would be with different groups of people on a day to day basis	Sector would need to provide hygiene measure and also implement use of disposable masks and gloves	User and worker within the sector require interaction with people over the age of 60 but distancing measure and hygiene measure can be effectively implemented	User and worker who have an underlying health condition cannot be completely requested but can be managed through effective distancing and hygiene measures	4-7%	4-7%	Sector supports businesses (general retailers, butchery, canteens, cleaners etc.)	Sector is for physical well-being and not connected to the public sector (independent nutritionists, health food and medical services, massage parlours etc.)	Sector/business promotes healthy social interaction (community halls, libraries, museums and other community based facilities)
2	Contact is regular, contact would be with different groups of people on a day to day basis. Distancing measure would be difficult to maintain in both barrier measures (gloves, masks etc.) could be effectively implemented	Sector would need to provide hygiene measure and also implement use of disposable aprons, gloves, masks and visors	User and worker within the sector are majority in the over 60 age bracket. Distancing measure cannot be implemented but hygiene and protective clothing (masks, gloves etc.) can be implemented to reduce the risk to an acceptable level	User and worker who have an underlying health condition cannot be managed through distancing and hygiene measures but can be reduced to an acceptable level through use of protective clothing such as gloves and masks	2-4%	2-4%	Sector comprises independent or niche markets (local distributors such as bookshops, hobby shops etc.)	Sector is for physical well-being in terms of exercise (gym, swimming pools etc.)	Sector/business set purely as specialist leisure facilities (pubs, bars, clubs etc.)
1	Contact with different people is constant. Distancing measure would be ineffective. Barrier measure could be implemented	Sector would need to bring in a wide range of hygiene measures including protective clothing and would also need to administer deep cleaning techniques for both premises and personnel	User and worker within the sector are majority in the over 60 age bracket. Distancing measure cannot be implemented but additional hygiene and protective clothing (deep cleaning of facilities, visors, aprons, gloves etc.) can be implemented to reduce the risk to an acceptable level	User and worker who have an underlying health condition will require stringent protective clothing measures including visors, aprons and regular deep cleaning of facilities	1-2%	1-2%	Sector is not essential for the running of other companies or retailing their products (hairdressers, beauty salons, etc.)	Sector is used for physical well-being activities (activity venues for children, industry involved in active travel measures etc.)	
0	Contact is constant across a range of groups. Distancing measure and barrier measure would be of little benefit and are prohibitive to the effective running of the sector	Measures that would need to be implemented would be prohibitive to the effective running of the sector	User and worker within the sector are majority in the over 60 age bracket. Distancing measure cannot be implemented and additional measures for hygiene, protective clothing, cleaning etc. would have limited effect. Segregation would be the only option	User and worker who have an underlying health condition will require stringent protective clothing measures including visors, aprons and regular deep cleaning of facilities. Measures to reduce risk to those with underlying health conditions cannot be reduced and the segregation would be the only option	Less than 1%	Less than 1%	Sector is for leisure only (cinemas, theatres, clubs, pubs, restaurants, bars, coffee shops etc.)		

Figure 3: The Construction Scorecard

Other sectors that have been tested through the scoring process are as follows:

- Education Sector – 86%
- Accommodation and Food Service Activities – 50%
- Real Estate – 71%
- Administrative and Support Service Activities – 66%

These scores are caveated by the fact that they are done using best judgement by WGOS and not by sector experts.

A Phased Approach

The various countries in Europe have proposed different time scales for their phased release. The education sector seems to be the one area that Europe and the world has put the most thought into and the timeframe for the phased return of school children is as follows:

- No phased return of school years - Switzerland
- 1 week between return of each school year – France and Luxembourg
- 2 weeks between return of each school year – Austria
- 4 weeks between return of each school year – Germany and the Netherlands

The phasing above is in addition to other measures such as focusing on transitioning years, segregation, hygiene measures and allowing parents to continue to home school if they wish, but it gives an idea of time frame. The R Value has a minimum of a two week delay so it could be construed that allowing a two – four week lapse between the release of each sector and monitoring the impact on the R value would be a logical way forward. This would also align us with the phasing of our European Peers and could therefore present well to colleagues.

Conclusions

This document attempts to draw together the key elements involved in releasing industry sectors in a safe and sustainable manner and offer some considerations on a possible rational approach to their release. The time delay between a rise in infection and the subsequent change to the R-value is problematic and any decision will need to consider the balance between economic need and maintaining a safe R-value. A minimum of two weeks and a maximum of four would align with our European peers.

At present Welsh Government Office for Science (WGOS) is working with our International teams to collect the measures that will be incorporated into each Industry sector as it is released to reduce the risk of a C-19 resurgence. This information is being collected on a country-by-country basis and will be provided to our regional and sector teams for consideration within their individual release strategies.

Bibliography:

1. Mulheirn, I., Alvis, S., Insall, L., Browne, J., Palmou, C., 2020, "A sustainable exit strategy: Managing uncertainty and minimising harm", Policy Futures, Tony Blair Institute for Global Change.
2. WHO European Office for Investment for Health and Development, 2020, Covid19 – Considerations on social and economic impacts and mitigation (2020), World Health Organisation.