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**J-value assessment of how best to combat COVID-19**

ABSTRACT. The new coronavirus infection will continue to pose a very severe challenge to the UK and to all countries around the world for the next 12 to 18 months. An epidemic model has been developed to explore the range of possible actions open to the UK and other nations to combat the virus. A “business as usual” policy would lead to the epidemic being over by September 2020, but such an approach would lead to a loss of life in the UK little less than what it suffered in the Second World War. Using the J-value without constraint suggests that exceptionally high spending would be justified for the three strategies that could reduce significantly the numbers of cases and deaths compared with the unmitigated epidemic. However such high spending is likely to come up against the J-value GDP constraint, whereby the measure should not so decrease GDP per head that the national population loses more life as a result of the countermeasure than it gains. The challenge for the UK Government (and other governments around the world) will be to manage its interventions so that the recession that is now inevitable is not significantly worse than that following the 2007–9 financial crash.

**Keywords:** coronavirus, COVID-19, economic challenge, epidemic model, J-value, lockdown

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