

Title: Serious Crime Bill: Computer Misuse Act 1990 - Aggravated Offence

Impact Assessment (IA)

IA No:

Date: 2 June 2014

Lead department or agency: Home Office

Stage: Final

Other departments or agencies: Crown Prosecution Service, Ministry of Justice, National Crime Agency

Source of intervention: Domestic

Type of measure: Primary legislation

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Summary: Intervention and Options

RPC Opinion: RPC Opinion Status

Cost of Preferred (or more likely) Option

Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, One-Out?	Measure qualifies as
N/A	£0	£0	No	NA

What is the problem under consideration? Why is government intervention necessary?

A major cyber attack on essential systems (for example those controlling power supply, communications, food or fuel distribution etc) could result in a risk to human life, public health or national security or cause serious social disruption or economic or environmental damage. However, the existing offence of impairing a computer only carries a maximum sentence of 10 years, which the Crown Prosecution Service (CPS) and law enforcement agencies consider too low for the level of economic and personal harm that such an attack could cause. Although to date no cyber attacks have had an impact of this nature, a longer maximum sentence should be available should such an attack occur in future.

What are the policy objectives and the intended effects?

The policy objective is to ensure that all cyber attacks that result in serious damage to human welfare, national security, the economy or the environment can be prosecuted, with a maximum sentence available that fully reflects the severity of the conduct.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Two options have been considered:

Option 1: Do nothing

Continue with existing arrangements under existing law.

Option 2: Legislate

Create a new (aggravated) offence of impairing a computer that results, directly or indirectly, in serious damage to the economy, the environment, national security or human welfare, or creates a significant risk of such damage. The maximum sentence will be life imprisonment for cyber attacks which result in loss of life, serious illness or injury or serious damage to national security or 14 years' imprisonment for attacks causing serious economic or environmental damage or social disruption.

Will the policy be reviewed? It will not be reviewed. If applicable, set review date: Month/Year

Does implementation go beyond minimum EU requirements?

N/A

Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.

Micro
No

< 20
No

Small
No

Medium
No

Large
No

What is the CO₂ equivalent change in greenhouse gas emissions? (Million tonnes CO₂ equivalent)

Traded:
n/a

Non-traded:
n/a

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible Minister:

Kam Bradley

Date: 31/6/14

Summary: Analysis & Evidence

Policy Option 2

Description: Create a new (aggravated) offence of impairing a computer to cause serious damage

FULL ECONOMIC ASSESSMENT

Price Base Year 12/13	PV Base Year 2016	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -	High: -	Best Estimate: -

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	0.12	1
Best Estimate	0	0.06	0.5

Description and scale of key monetised costs by 'main affected groups'

Any offences that fall within the scope of the new aggravated offence could already be prosecuted as the existing "section 3" offence. Although we expect the threshold for the aggravated offence to be met only very rarely, potential costs to the criminal justice system would arise for HM Courts and Tribunals Service, the Crown Prosecution Service and the Legal Aid Agency from more complex investigations and trials and for the Prison and Probation Services from longer custodial sentences.

Other key non-monetised costs by 'main affected groups'

N/A

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	n/a	n/a	n/a
High	n/a	n/a	n/a
Best Estimate	n/a	n/a	n/a

Description and scale of key monetised benefits by 'main affected groups'

N/A

Other key non-monetised benefits by 'main affected groups'

Any cyber attack that had a serious impact on human welfare, national security, the economy or the environment could be appropriately prosecuted and cyber attacks with serious consequences for society would be seen to be taken sufficiently seriously. There is no evidence that cyber criminals will necessarily be deterred by a longer sentence, but there may be deterrence benefits and/or benefits in public confidence

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

There have so far been no successful cyber attacks that would meet the criteria for the proposed new offence. However as technology improves, an ever-increasing number of people use the internet and more systems rely on it, the number and severity of criminally-motivated cyber attacks is expected to increase, but it is difficult accurately to predict future levels.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs: 0	Benefits: 0	Net: 0	No	NA

Evidence Base (for summary sheets)

Problem under consideration

A major cyber attack on essential systems (for example those controlling power supply, communications, food or fuel distribution etc) could have a significant impact, resulting in a risk to human life, public health or national security or causing serious social disruption or economic or environmental damage.

However, the Computer Misuse Act (CMA) "section 3" offence of impairing a computer only carries a maximum sentence of 10 years. The Crown Prosecution Service (CPS) and law enforcement agencies consider a maximum sentence of 10 years for a major attack too low for the level of economic and personal harm that could be caused and out of step with the much higher maximum tariffs available for offences such as drug trafficking or aggravated criminal damage. In some cases it might be possible to prosecute under another, more serious offence; however this will depend on the precise circumstances of the attack and will not always be possible.

To date there have been no successful cyber attacks of this nature. However, reliance on computer systems is increasing, as is the degree to which they are interlinked, increasing the likelihood that a successful cyber attack will cause significant impacts on the real world in a way unforeseen when the Computer Misuse Act was passed.

Rationale for intervention

Cyber attacks have the potential to have a significant impact on public health, essential services, the economy, the environment or national security. It is in society's interest to acquire protection against these attacks.

Policy objective

The policy objective is to ensure that all cyber attacks that result in serious damage to human welfare, national security, the economy or the environment can be prosecuted, with a maximum sentence available that fully reflects the severity of the conduct.

Description of options considered (including do nothing);

Two options have been considered:

Option 1: Do nothing.

Continue with existing arrangements under existing law.

Option2: Legislate

We propose to create a new (aggravated) offence of impairing a computer that results, either directly or indirectly, in serious damage to the economy, the environment, national security or human welfare, or creates a significant risk of such damage.

As well as knowing that their actions in impairing the computer are unauthorised, the defendant should intend the impairment to cause the harms outlined or be reckless as to whether such harms are caused. The offence will be triable only on indictment, with a maximum sentence of life imprisonment for cyber attacks which result in loss of life, serious illness or injury or serious damage to national security (or a significant risk thereof) or 14 years' imprisonment for cyber attacks causing, or creating a significant risk of, severe economic or environmental damage or social disruption.

Groups affected

Apart from the individuals who would be prosecuted under this new offence, the main groups affected by the policy would be:

- **The Police** – who will need to familiarise themselves with the new arrangements.
- **HM Courts and Tribunals Service (HMCTS)** - proceedings for the new aggravated offence will potentially be longer and more complex than cases for the existing "section 3" offence of impairing a computer.

- **Crown Prosecution Service (CPS)** – the new aggravated offence will be more complex to prosecute than the existing “section 3” offence” as the prosecution will need to prove both the unauthorised act in relation to the computer and the serious impact this had.
- **The Legal Aid Agency (LAA)** - the cost of legal aid is likely to increase with the increase in length/complexity of cases.
- **HM Prison Service, Probation service, National Offender Management Service (NOMS)** - there will be an impact on prisons and subsequently on probation from the longer custodial sentences available.

Monetised and non-monetised costs and benefits of each option

Option 1: Do nothing

There are no additional costs or benefits if there is no policy change.

Option 2: Legislate

Monetised costs

There are no expected costs to business from this option.

Proportionality

We have estimated the costs of the policy assuming that each conviction results in a life sentence. As it is difficult to estimate the volumes overall for the new aggravated offence, it is even more difficult to estimate the volumes for the different sub-sections of the offence. In addition, as we expect relatively few prosecutions, it could become a bit spurious to try and split out already minimal numbers for the volumes. Given that the impacts of this policy over a 10 year period are a maximum of £1million, it would be disproportionate to go in to further detail calculating the impacts. Taking this approach means **the figures provided are overestimates of the true cost.**

Training costs

All police will need to familiarise themselves with the new regulations. The College of Policing ensures that all new legislation is incorporated into the National Policing Curriculum as matter of course, and falls within existing budgets. The additional cost of training for this policy is therefore expected to be **negligible.**

Estimated CJS costs per case (court process)

Apart from the impact on those prosecuted for the new offence, the main impacts would be:

- the custodial sentences on the prison system and probation; and
- the trial process on the Her Majesty’s Courts and Tribunals Service (HMCTS), the Crown Prosecution Service (CPS) and the Legal Aid Agency (LAA)

Any offences that fall within the scope of the new aggravated offence could already be prosecuted as the existing “section 3” offence (as well as, in some cases and depending on the precise circumstances, another more serious offence). However, as the new aggravated offence is considerably more serious than the existing offence we estimate below the cost of the new offence with reference to other grave offences. The table below presents estimated costs for HMCTS, CPS and LAA. Costs estimates provided are calculated on the basis of assumptions, which have associated risks and limitations. See Annex A for a full outline of the assumptions and associated risks.

	Estimated Costs per case (000s)
CPS (including advocacy costs for homicide and related grave offences)	£17.5
HMCTS	£2.5
Legal Aid	£52.6

Total	£73¹

Estimated CJS costs (disposals):

We assume an average annual cost of **£28,000 per prison place²** and of **£2,600 for probation** (for supervision on licence following release from custody). We also assume that all offenders prosecuted for the new offence receive the maximum custodial sentence. Where that is life imprisonment, we assume a tariff of 12 years, followed by another 12 years on post-release licence. We expect offenders who are sentenced to 14 years will serve 7 years in custody, followed by 7 years on post-release licence. However as it is difficult, given the small volumes anticipated (please see section below) to estimate how many cases would be subject to the maximum penalty of life imprisonment and how many would be subject to the 14 year maximum, we make the simplifying assumption that all cases would be subject to the higher maximum. Please refer to annex A for a full list of assumptions and risks.

Estimated total CJS costs

In the period 2001-2012, 78 offenders were sentenced for the existing "section 3" offence of impairing a computer, an average of seven per year.³ During the same period, 16 offenders (an average of one per year) were sentenced to immediate custody. In 2012, the average custodial sentence length given was 18 months, and the maximum given was 24 months.

The proposed new offence is considerably more serious than the section 3 offence, and it is reasonable to assume that the number of prosecutions will be minimal as, although the likelihood of a cyber attack having an impact of this seriousness is increasing with developments in technology, there have been none to date. We estimate the costs over a period of 10 years.

- In the **high estimate** we assume that there will be one case every other year
- In the **low estimate** we assume no offences will take place which fall under this offence definition (therefore zero cost).
- Our **best estimate** is that between 2/3 offences will take place over the next 10 years, for simplicity we have obtained this by dividing the high estimate by two.

We assume that all offenders prosecuted for the proposed offence receive a custodial sentence. We also assume that where that custodial sentence is life imprisonment, the tariff is 12 years.⁴

We have not subtracted the Criminal Justice System costs that would have occurred in the absence of this offence.

This means the figures represent an over estimate of the true cost.

¹ To the nearest £1,000, and at 2012-13 prices

² The actual (cashable) cost of an increase in the prison population (i.e. the marginal cost per place) depends on the extent of spare capacity in the prison estate at that moment, the scale of the expected population change, and planned decisions on future capacity. This cost varies constantly, however, as both the prison population and capacity move over time, which makes it impractical to use for policy planning purposes.

³ Further breakdown of Ministry of Justice Criminal Justice Statistics, 2012. Every effort is made to ensure that the figures presented are accurate and complete. However, it is important to note that these data have been extracted from large administrative data systems generated by the courts. As a consequence, care should be taken to ensure data collection processes and their inevitable limitations are taken into account when those data are used.

⁴ Annual tables - Offender management caseload statistics 2012 tables, Table A3.5 - Number of first releases from prison on life licence and average time served, England and Wales, 2002-2012.

The table below sets out the estimated costs per year of the prosecutions and convictions of the proposed offence for our high estimate.

		Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Total CJS costs (thousands) ⁷
	HMCTS+CPS+LA (thousands) ⁵	intake	intake	intake	intake	intake	intake	intake	intake	intake	intake	
		Prison and Probation (thousands) ⁶										
2016	£73	£28										£100
2017	£0	£28	£0									£30
2018	£73	£28	£0	£28								£130
2019	£0	£28	£0	£28	£0							£60
2020	£73	£28	£0	£28	£0	£28						£160
2021	£0	£28	£0	£28	£0	£28	£0					£80
2022	£73	£28	£0	£28	£0	£28	£0	£28				£190
2023	£0	£28	£0	£28	£0	£28	£0	£28	£0			£110
2024	£73	£28	£0	£28	£0	£28	£0	£28	£0	£28		£210
2025	£0	£28	£0	£28	£0	£28	£0	£28	£0	£28	£0	£140

High Estimate	Cost (m)	Present Cost (m)	Best Estimate	Cost(m)	Present Cost(m)
Year 1	£0.10	£0.10	Year 1	£0.05	£0.05
Year 2	£0.03	£0.03	Year 2	£0.02	£0.01
Year 3	£0.13	£0.12	Year 3	£0.07	£0.06
Year 4	£0.06	£0.05	Year 4	£0.03	£0.03
Year 5	£0.16	£0.14	Year 5	£0.08	£0.07
Year 6	£0.08	£0.07	Year 6	£0.04	£0.03
Year 7	£0.18	£0.15	Year 7	£0.09	£0.07
Year 8	£0.11	£0.09	Year 8	£0.06	£0.04
Year 9	£0.21	£0.16	Year 9	£0.11	£0.08
Year 10	£0.14	£0.10	Year 10	£0.07	£0.05
Total	1.20	1.01	Total	£0.60	£0.50

The high estimate cost over a ten year period is £1m
The best estimate cost over a ten year period is £0.5m
The low estimate cost over a ten year period is £0

Monetised benefits

N/A

Non-monetised costs

N/A

Non-monetised benefits.

Any cyber attack that had a serious impact on human welfare, national security, the economy or the environment could be appropriately prosecuted and cyber attacks with serious consequences for society would be seen to be taken sufficiently seriously. There is no evidence that cyber criminals will necessarily be deterred by a longer sentence, but there may be deterrence benefits and/or benefits in public confidence.

⁵ Rounded to the nearest 1,000.

⁶ Ibid.

⁷ Rounded to the nearest 10,000.

Risks

There are risks that:

- any proposed offence could be changed during its passage through Parliament;
- as technology improves, an ever-increasing number of people use the internet and more systems rely on it. The number and severity of criminally-motivated cyber attacks may increase significantly beyond current expected levels

See Annex A for risks and assumptions related to CJS costs.

Consultation

A full public consultation will not be taken due to the tight time frame before the 4th session. However stakeholders have been consulted. List is below.

Within Government:

- Ministry of Justice
- Crown Prosecution Service
- Scotland Office
- Northern Ireland
- GCHQ

Outside Government:

- Police
- National Crime Agency

Summary and preferred option with description of implementation plan

In summary, we have identified that the existing offence of impairing a computer, which carries a maximum sentence of 10 years, would be insufficiently serious to prosecute cyber attacks which caused serious personal, societal or economic harm. We intend to create a new (aggravated) offence of impairing a computer that causes serious damage to human welfare, national security, the economy or the environment to address this gap.

The main purpose of this approach is to proof our legislation against future threats and we would expect the number of prosecutions for the new offence to be very small.

Implementation plan

The government plans to implement these changes through the Serious Crime Bill (to be introduced in parliament in June 2014). Dependent on its safe passage, commencement would be in 2015 with enactment in 2016.

Monitoring

This policy will not be reviewed after a certain date, but instead will be monitored routinely. We expect to monitor any cases in which the new offence is used.

Risks and Assumptions

Assumption	Risks/Limitations
<p>Number of cases:</p> <ul style="list-style-type: none"> We estimate costs for a period of 10 years. We assume that there will be: one case every other year (high estimate); one case every 2 or 3 years (best estimate); or no cases in a 10 year period (low estimate) <p>Source: HO estimate</p>	<ul style="list-style-type: none"> The number of cases could differ from our assumption, particularly bearing in mind the concerns below. There are particular concerns that the proposed offence may be potentially very wide-ranging (it would cover loss of life, but also damage and disruption across a wide range of activities and assets) and there is some lack of clarity as to what the lowest threshold would be judged to be in defining disruption or damage, especially as the offence would be subject to a maximum penalty of life imprisonment.
<p>Progression of a case through the CJS (eg, proportion sentenced to immediate custody):</p> <ul style="list-style-type: none"> We assume that all offenders prosecuted for the proposed offence receive a custodial sentence. <p>Source: MoJ internal analysis, 2013.</p>	<ul style="list-style-type: none"> There is a risk that fewer offenders will be sentenced to immediate custody.
<p>Sentence length given</p> <ul style="list-style-type: none"> We also assume that in all cases the custodial sentence is life imprisonment, with a tariff of 12 years. <p>Source: MoJ internal analysis, 2013.</p>	<ul style="list-style-type: none"> There is the risk that the sentence will be shorter than the maximum. There is a risk that the tariff could be longer or shorter. There is a risk that some offences will cause only the types of damage for which the lower (14 year) maximum sentence is available
<p>CPS costs:</p> <ul style="list-style-type: none"> The estimated CPS costs consist of two broad categories, advocacy costs and Activity Based Costings (ABC). The primary purpose of the ABC model is resource distribution, and has several limitations (see risks). The CPS ABC Crown court cost per case is a weighted average for a 	<ul style="list-style-type: none"> The key limitation of the ABC model is that it is built purely on staff time and excludes accommodation and other ancillary costs (e.g. those associated with complex cases and witness care). It also relies on several assumptions. This could mean there is a risk that costs are

Assumption	Risks/Limitations
<p>Crown Court (across timeous guilty pleas, late guilty pleas, guilty/not guilty contests, dropped prosecutions and write offs), and inclusive of a pre-charge decision). The CPS advocacy costs were estimated by considering the advocacy costs for Category A (Homicide and related grave offences). The total ABC and advocacy costs are estimated as £17,500 (in 2012/13 prices and rounded to the nearest £100).</p> <p>Source: MoJ internal analysis based on CPS advice, 2013.</p>	<p>underestimated. For further information about how CPS ABC costs are calculated please see the following CPS guidance (CPS, 2012): http://www.cps.gov.uk/publications/finance/abc_guide.pdf.</p>
<p>HMCTS costs:</p> <p>Crown Courts Costs</p> <p>The estimated Crown court cost for indictable only offences is £2,500. Timings data for types of case (eg, indictable only, triable either way) were applied to Crown court costs per sitting day. This was added to the cost of the initial hearing in the Magistrates, as all criminal cases start in the Magistrates courts. Crown Court cost is £1,600 per sitting day in 2012/13 prices, assuming a sitting day is 5 hours.</p> <p>Source: The HMCTS costs are based on average judicial and staff costs, found at HMCTS Annual Report and Accounts 2012-2013</p>	<p>Timings data for types of cases:</p> <ul style="list-style-type: none"> • The average time figures which provide the information for the timings do not include any down time. This would lead to an underestimate in the court costing. • Timings do not take into account associated admin time related with listing a case for court hearings. This could mean that costings are an underestimate. • The data which informed the timings data excludes cases where a bench warrant was issued, no plea recorded, indictment to lie on file, found unfit to plead, and other results. • Committals for sentence exclude committals after breach, 'bring backs' and deferred sentences. <p>HMCTS average costs per sitting day:</p> <ul style="list-style-type: none"> • HMCTS court costs used may be an underestimate as they include only judicial and staff costs. Other key costs which inevitably impact on the cost of additional cases in the courts have not been considered; for example juror costs.
<p>Legal Aid costs:</p> <p>We assume 100% eligibility for cases in the Crown Court.</p> <p>The average legal aid cost for Category A (Homicide and related grave offences) in the</p>	<ul style="list-style-type: none"> • There is a risk that variance in the Legal Aid eligibility rate assumed for cases in the magistrates' courts would impact the costings.

Assumption	Risks/Limitations
<p>Crown Court was assumed- around £52,600 (based on Crime Higher Report, Legal Aid Agency).</p> <p>We use an average cost including all offence types from the dataset that includes both standard and non-standard fees to estimate the cost to the Legal Aid Agency.</p>	<ul style="list-style-type: none"> Assuming 100% eligibility for Legal Aid in the Crown court carries several risks. Firstly, an individual may refuse legal aid. Secondly, an individual may contribute to legal aid costs. Lastly, the size of this contribution can vary. This could mean that the costings provided are a slight overestimate. There is a risk that the cost could be higher for specific new offences where Legal Aid is paid under the more expensive non standard fee scheme. There is a substantial risk that the LA costs are an underestimate, given the cross jurisdiction aspects of the cases and their relative complexity.
<p>Prison costs:</p> <p>We assume that for life sentences a tariff of 12 years is served. The average cost per prison place is £28,000.</p> <p>Source: NOMS management accounts addendum (2012/13), MoJ Annual tables - Offender management caseload statistics 2012 tables, Table A3.5</p>	<ul style="list-style-type: none"> The cost of additional prison places is also dependent on the existing prison population, as if there is spare capacity in terms of prison places then the marginal cost of accommodating more offenders will be low due to existing large fixed costs and low variable costs. Conversely, if the current prison population is running at or over capacity then marginal costs may be significantly higher as contingency measures will have to be found.
<p>Probation costs:</p> <p>We typically assume that an offender given a custodial sentence of 12 months or more will serve half of their sentence in custody and the other half on post-release licence. However, with the assumption that the custodial sentence will be life imprisonment with a tariff of 12 years, we assume the post-release licence will be another 12 years.</p> <p>We also assume that independent probationary sentences consist of community orders and suspended sentence orders.</p> <p>Costs for probation and community sentences are approximately £2,600 per year in 2012/13 prices. The probation costs are based on national costs for community order/ suspended sentence order, found at NOMS, Probation</p>	<ul style="list-style-type: none"> Costs represent the national average fully apportioned cost based on delivery by 35 Probation Trusts in 2012/13. Unit costs are calculated from the total fully apportioned cost of relevant services divided by starts in that year and do not consider which elements of cost are fixed and which will vary based on service volumes. Major changes to the volume, length or content of community sentences or the characteristics of the offender population could affect the unit cost. The costs consist of costs for both (a) managing the sentence and (b) delivering court-ordered requirements. Excludes centrally

Assumption	Risks/Limitations
Trust Unit Costs, Financial Year 2012-13. Source: MoJ internal analysis, 2013.	managed contract costs for Electronic Monitoring and Sentence Order Attendance Centres.

