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Executive Summary

1. We contribute to this Call for Evidence by critically examining the benefits and risks of algorithmic credit decisions by UK banks. We argue for a statutory right to explanation in automated credit decision-making in the UK, as transparency and accountability are central to the rule of law.

2. Our submission is based on two premises. First, from a moral standpoint, we demonstrate that there is a double level of distrust in financial services and algorithms. Algorithms are unpredictable and can make unreliable, strange decisions. Algorithmic challenges such as bias, discrimination and unfairness are exacerbated by the opacity problem commonly known as the 'black box' phenomenon. The informed consent process in automated credit decision-making is thus incomplete, which requires an ex-post right to explanation for completing the informed consent procedure.

3. Secondly, our doctrinal and comparative legal methodologies reveal that the member states of the European Union like Poland, and countries such as USA, Canada and China already provide a right to explanation to credit applicants under certain circumstances.

4. Central to our argument is the introduction of new empirical evidence of public surveys regarding a desire from the public to have a right to explanation for unsuccessful credit applications. We argue for a statutory right to meaningful and accessible local feature-based information to automated credit decision making, which should include objective criteria and weightings used by banks.

Main Summary

1. Algorithmic processing of credit data is widely used in UK banks.[1] 'Algorithmic processing' refers to the processing of personal and non-personal data by automated systems. This includes artificial intelligence (AI) systems such as machine learning models.

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[1] Bank of England and Financial Conduct Authority, 'Machine Learning in UK Financial Services' (2019)

2. IIF survey of 2019 shows that financial industry stakeholders such as supervisors, auditors and bank employees are concerned about the 'black box' and explainability problems.[2] They are also fearful of associated problems such as transparency, auditability and interpretability of results. The 'black box' problem is particularly problematic in risk assessment modelling because the algorithms used are too complex to explain or companies will use trade secrets as a defence to explain. The risk is that the algorithms can entrench historic biases, even if protected characteristics such as gender and race are removed from the data input. This means that algorithms might inadvertently create biased outcomes due to, for example, unrepresentative training data. This can lead to unintended harms and outcomes, which include bias or price discrimination against some customers, especially vulnerable groups, in automated credit making decisions.[3]

3. Algorithmic credit decision-making raises the question of whether the process is fair, and its automated nature exacerbates this fairness issue due to its opacity.[4] This opacity makes it almost impossible to find out what caused bias or discrimination. The right to an explanation, coupled with transparency on the criteria and weightings used in the credit application, will provide customers with relevant feedback for them to improve their credit scores. We therefore submit that there should be a statutory right to explanation to algorithmic credit making decisions in the UK.

4. Banks use linear regression models to establish a threshold credit score. The score relies on the linear relationship between past applicant data and associated weights attached to each variable.[5] Credit repayment history is the highest weighted variable in both models.[6] For example, credit scoring services company Fairfax, Isaac and Company attach 35% to repayment history; 30% to amounts owed; 15% to length to credit history; 10% to new credit and 10% to credit mix.[7] Applicants who score above the threshold will be accepted and those who score below will be rejected. However, there will be instances where this model will deny creditworthy customers or accept customers who may be prone to default. Hence, linear regression models do not generally perform well with outliers and are not sufficiently accurate in credit scoring.

The Right to Explanation in Automated Decision-Making

5. Article 22 of the General Data Protection Regulations (GDPR) remains applicable post Brexit and protects data subjects when automated individual decision-making and profiling take place. A data subject should have 'the right not to be subject to a decision based solely on automated processing … which

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<https://www.fca.org.uk/publication/research/research-note-on-machine-learning-in-uk-financial-services.pdf>.
[2] Institute of International Finance, 'Machine Learning in Credit Risk' (*Machine Learning in Credit Risk*, 2019) 1 <https://www.iif.com/Portals/0/Files/content/Research/iif_mlcr_2nd_8_15_19.pdf> accessed 1 March 2025.
[3] Robert Bartlett and others, 'Consumer-Lending Discrimination in the FinTech Era' (2022) 143 Journal of Financial Economics 30 <https://www.sciencedirect.com/science/article/pii/S0304405X21002403>.
[4] Tal Zarsky, 'The Trouble with Algorithmic Decisions: An Analytic Road Map to Examine Efficiency and Fairness in Automated and Opaque Decision Making' (2016) 41 Science, Technology, & Human Values 118.
[5] Terry Harris, 'Quantitative Credit Risk Assessment Using Support Vector Machines: Broad versus Narrow Default Definitions' (2013) 40 Expert Systems with Applications 4404 <https://www.sciencedirect.com/science/article/pii/S0957417413000754>.
[6] Nikita Aggarwal, 'The Norms of Algorithmic Credit Scoring' (2021) 80 The Cambridge Law Journal 42 <https://www.cambridge.org/core/product/identifier/S0008197321000015/type/journal_article> accessed 1 March 2025.
[7] P Iglesias-Rodriguez, 'Financial Regulation & Supervision in Spain, the UK and the U.S.' (P Iglesias-Rodriguez ed, Wolters Kluwer Law & Business, 2014).

produces legal effects concerning him or her or similarly significantly affects him or her'. Article 22 only applies to automated decision-making with 'legal effects' or 'similarly significant effects'. Recital 71 names two examples of such effects: automatic refusal of an online credit application and e-recruiting practices. The wording of Recital 71 has created a debate as to whether it gives individuals the right to an explanation. Recital 71 states that 'such processing should be subject to suitable safeguards, which should include … the right to obtain human intervention, to express his or her point of view, **to obtain an explanation of the decision reached after such assessment and to challenge the decision**' (emphasis added).

6. The case of SCHUFA Holding and Others (Scoring) Case C-634/21 in 2023 demonstrates that the Court of European Justice believes that facilitating 'meaningful information' and explanation to data subjects using appropriate communication methods is important. In particular, Attorney General Piikamae opined that whilst businesses have a legitimate reason to protect their trade secrets and intellectual property rights in algorithms, this is not an absolute right to refuse to disclose the algorithm used to calculate the data subject's score.

7. The EU's Artificial Intelligence Act (EU AI Act) 2024 provides some compromise between the right to explanation and protection of trade secrets. Under Article 11 of Annex 4, high-risk AI product developers must provide technical documents to national authorities and bodies to comply with the principles of explainability and transparency. Citizens will have a right to submit complaints about AI systems and receive explanations about decisions based on high-risk AI systems that affect their rights under Article 13 of Annex 4.

8. Article 13 specifies that the information provided by organisations such as banks to users should be "concise, complete, correct and clear information that is relevant, accessible and comprehensible to users". This is useful in terms of the language used, but different people in diverse situations require tailored explanations. There are three main categories of people which require explainability in credit scoring. First, loan officers that are said to prefer local sample-based explanations. This involves comparing the unsuccessful applicant's profile against other similar profiles. Second, rejected loan applicants that are said to prefer local feature-based explanations. This involves providing individual case specific reasons. Third, regulators or data scientists that are said to prefer global model explanations.[8] This is because by having a global picture of logic and reasoning used by the model, it enables regulators to ensure that the model is fair and consistent in making decisions.

The Statutory Right to Explanation in Different Jurisdictions

9. Regulators in the USA have already called for adverse action codes in legislation for credit denial in section 1002.9 (a)(2) of Equal Credit Opportunity Act 1974 ('creditor must provide the applicant with the principal reason for the action taken') and section 15 US Code 161g of the Fair Credit Reporting Act 1970 ('key factors that adversely affected the credit score of the consumer in the model used, the total number of which shall not exceed 4 ...The term "key factors" means all relevant elements or reasons adversely affecting the credit score for the particular individual, listed in the order of their importance

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[8] L Demajo, V Vella and A Dingli, 'An Explanation Framework For Interpretable Credit Scoring' (2021) 12 International Journal of Artificial Intelligence and Applications 19.

based on their effect on the credit score'). The Blueprint for an AI Bill of Rights is a guide for society setting out the key principles when using automated systems. Central to this is the principle that developers and designers of AI should give 'clear, timely and accessible' explanations of outcomes to the public when automation is used. The phrase 'clear, timely and accessible' resembles Article 13 Annex 4 of the EU AI Act 2024.

10. Around the world, various countries provide citizens with a statutory right to explanation to automated algorithmic decisions. The Canadian C-27 Digital Charter Implementation Act ('the Canadian C-27 Act') requires companies which use automated decision-making systems for the purposes of prediction, recommendation or decision which would have a *significant impact* on them, to provide data subjects with an explanation. The explanation should indicate 'the type of personal information that was used to make the prediction, recommendation or decision, the source of the information and the reasons or principal factors that led to the prediction, recommendation or decision'. Arguably, the choice of 'significant impact' in the Canadian C-27 Act is wider than 'legal effects concerning him or her or similarly significantly affects him or her' found in Article 22 of the EU GDPR.

11. Poland passed legislation in 2019 which amended Article 70a of its Banking Act 1997. Under this provision, customers now have a statutory right to explanation when a bank makes a credit decision. The bank must then provide the list of criteria it used, no matter whether the decision was made automatically (using algorithms), or by a bank employee. However, the Polish Financial Supervision Authority ('the OPFSA') has found that Polish banks have provided only general data categories to customers without providing the applicant's data or their financial circumstances.[9] The OPFSA recommended that Polish banks need to give applicants personalised and detailed information, including on what applicants can do to improve their creditworthiness. The OPFSA also noted that Polish banks did not give a deadline by which they would provide the explanation for an unsuccessful application. Whilst an indefinite period of asking and responding to explanations has some benefits, the OPFSA opined that it would be more practical to have a deadline by which banks have to respond to a request for explanation when turning down an application.

12. China specifically carved out algorithmic governance as an important pillar of its AI regulatory framework. The 2021 Recommendation Algorithm Provision; 2022 Deep Synthesis Provisions and 2023 Generative AI Measures all provide some degree of protection to users by demanding companies not to discriminate based on protected characteristics and file algorithmic information with the Cybersecurity Administration of China.[10]

13. It can be argued that China is ahead of other countries in protecting consumers from algorithmic harms because first, it has established an Algorithmic Registry, where security assessments of registered algorithms are performed. It is unclear however, to what extent the Registry can perform meaningful

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[9] Office of the Polish Financial Supervision Authority, 'Announcement of the Office of the Polish Financial Supervision Authority' (2020) <file:///C:/Users/aliso/Downloads/Komunikat_UKNF_ws_prawa_do_uzyskania_wyjasnien_nt_oceny_zdolnosci_kredytowej_wersja_szczegolowa_70332 (1).pdf>.

[10] J Gong, H Qu and H Dorwart, 'AI Governance in China: Strategies, Initiatives, and Key Considerations' (*AI Governance in China: Strategies, Initiatives, and Key Considerations*, 2024) <https://www.twobirds.com/en/insights/2024/china/ai-governance-in-china-strategies-initiatives-and-key-considerations#:~:text=Consequently%2C the statutory responsibilities of,obligations%2C provisions related to automated> accessed 2 March 2025.

insight into the 'black box' phenomenon.[11] Secondly, China adopted the Personal Information Protection Law (PIPL) in August 2021. The PIPL gives users the right to ask the handler to explain its decision-making and can prohibit the handler from making decisions based solely on its use. When handlers use automated decision making, they must undertake impact assessments to ensure that first, the purpose and method used by the handlers are lawful, legitimate and necessary. Second, the influence on individual's rights and finally, whether protective measures are legal, effective and proportionate to the risk.[12]

Current UK legislative framework for a right to explanation

14. The UK currently does not have equivalent legislation applicable to customers who have been denied credit. However, the UK government acknowledges in its public consultation report: 'Data: a new direction' of 2021'[13] that there will be a substantial increase in the use of automated decision-making in the next few years. It also recognised that AI should be a force for good and does not inadvertently harm customers. The UK government, after noting considerable confusion amongst the public regarding Article 22 GDPR, is pondering how to reform this law. It is leaning towards providing data subjects a right to specific safeguards, rather than a general ban on solely automated decision-making.

15. The UK Consumer Protection Act 1974 provides some protection to credit applicants. They can ask credit providers to check the applicants' personal details and credit history. If denied credit unfairly, applicants can ask their credit providers which credit reference agency or agencies they used. Credit applicants can receive a copy of their credit files. If the information on the files is inaccurate or out-of-date, applicants can ask for that information to be amended under Consumer Credit (Credit Reference Agency) Regulations 2000. However, the current consumer protection laws do not provide a right to explanation as to why a credit decision is unsuccessful or what criteria were used.

16. We believe that the statutory rights enshrined in the EU AI Act 2024 the rights for the technical documentation (Article 11), system logs (Article 12) and instructions for use (Article 13) of a high-risk AI system are useful but not necessarily accessible. Rather than relying on Article 86(1) EU AI Act 2024 where the applicant needs to show a high-risk AI system was used and adverse impact on their rights, it seems easier and quicker if unsuccessful credit applicants petition to their Courts under national law for information such as the technical documentation (Article 11) or system logs (Article 12). However, the average consumer is unlikely to fully understand the technical language or details of the technical documentation, system logs or instructions for use. A right to explanation will make information more accessible to consumers, because it is an opportunity to ask why a credit decision is unsuccessful or what criteria were used. This is important, because when deciding the fairness of algorithms, there is limited attention to the *subjective* fairness perceptions of the recipient of the decision that the algorithm made.[14]

17. A further reason why the UK needs a right to explanation is because explainable artificial intelligence (XAI) is more aimed at experts and focuses on technical points. XAI explains how algorithms make decisions to human *experts*, and facilitates understanding to decision-makers.[15] XAI increases confidence

[11] A Kachra, 'Making Sense of China's AI Regulations' (*Making Sense of China's AI Regulations*, 2024) <https://www.holisticai.com/blog/china-ai-regulation> accessed 22 July 2024.
[12] Ibid
[13] UK Government, 'Consultation Outcome Data: A New Direction - Government Response to Consultation' (*Data: a new direction*, 2021) 1 <https://www.gov.uk/government/consultations/data-a-new-direction/outcome/data-a-new-direction-government-response-to-consultation>.
[14] D De Cremer, 'What Does Building a Fair AI Really Entail?' (2020) September Harvard Business Review <https://hbr.org/2020/09/what-does-building-a-fair-ai-really-entail>.
[15] Marijn Janssen and others, 'Will Algorithms Blind People? The Effect of Explainable AI and Decision-Makers'

in businesses by encouraging compliance to regulations such as the GDPR; allowing developers to detect flaws in the models and builds customers' trust in automated decisions. AI approved loans to unpromising customers will seriously diminish trust in AI systems, much more so than human experts.[16] Janssen et al suggest that "XAI embraces the social right to explain decisions to the public". Explanations are often only necessary when the recipients of the outcomes are impacted negatively. XAI facilitates the right to an explanation, but XAI is insufficient. As explained earlier, a right to explanation incorporates a recipient's subjective fairness into the algorithmic decision-making process. This helps with the recipient, who is often less powerful than businesses and decision makers, in accepting the outcome, even if it is a poor one. To a certain extent, we also believe that the right to explanation addresses the power imbalance between decision makers and recipients of outcomes.

18. If a statutory right to an explanation were introduced in the UK for automated credit decision-making, it could form the basis for legal challenges in cases where applicants feel their rights have been infringed. This statutory right would provide a basis for judicial review, complaints to data protection authorities, and potential civil claims, particularly in scenarios where credit applicants are denied access to finance and where decisions are made in a way that is opaque or seems biased. It would likely serve as a robust foundation for challenging automated credit decisions on grounds of transparency, fairness, and accountability. By creating new avenues for appeal and redress, such a right would empower applicants to hold financial institutions accountable for opaque decision-making processes, helping to promote procedural fairness. However, implementing and balancing this right with financial institutions' interests in maintaining intellectual property protections would require careful legal guidance and oversight.

19. We conducted surveys amongst 37 employees of seven UK banks and 62 members of the general public. The public survey consisted of 25 questions: seven concerning personal and demographical information and 18 concerning attitudes and views of artificial intelligence. The bank employee survey consisted of 20 questions; seven concerning personal and demographical information and 13 concerning attitudes and views of artificial intelligence. Most questions in both surveys were multiple choice questions (consisting of sliding scales and multiple answer questions) and short answer questions.

20. Our empirical evidence reveals two very important results. First, most of both public and banking employee participants would like to see a statutory right to explanation for unsuccessful automated lending decisions. Secondly, the explanation should include the criteria used by banks in making the decision and concerns that the bank has regarding the application. Such explanation requirements are already incorporated in the US, EU, Canada, China and Poland.

21. Both the bank employees and general public survey participants are not asking for comprehensive explanations of the algorithmic innards. They would like to know what criteria and weightings are used as well as how they can improve their creditworthiness. Therefore, we do not ask for a higher standard of explanation or transparency of algorithms as compared with humans. Nor are we suggesting that the standard of explanation should be higher for neural networks compared to linear models such as discriminant models because of the more complex nature of neural networks. Our empirical results do not call for either. We respond to the survey results by proposing a statutory right to accessible, meaningful explanation, which includes the objective criteria used in the decision-making process and what type of AI is used in the credit decision making process. This will be a standalone right, similar to say Article 11 of the EU AI Act 2024, giving EU citizens the right to technical documentation.

Experience on AI-Supported Decision-Making in Government' (2022) 40 Social science computer review 478.
[16] Swati Sachan and others, 'An Explainable AI Decision-Support-System to Automate Loan Underwriting' (2020) 144 Expert systems with applications 113100.

22. A statutory right to explanation will not solve all the 'black box' related challenges, but it will provide some protection to the most vulnerable groups of consumers in the UK.

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