31 January 2022

ARTIFICIAL INTELLIGENCE

POLICY RECOMMENDATIONS FOR A BALANCED APPLICATION OF THE EU AI ACT

ACCIS
DATA FOR CREDIT

EXECUTIVE SUMMARY

This paper offers an overview of the functioning of creditworthiness assessments (CWAs) and credit scores in relation to lending decisions (and other service provisions), and an analysis of the role that new advanced AI techniques play in this regard. In addition, it explains the existing safeguards for consumers under the current regulatory framework, followed by targeted **policy recommendations** for a balanced application of the new proposed Artificial Intelligence Act.

CREDIT REFERENCE AGENCIES

Credit Reference Agencies (CRAs) are businesses which provide credit-related information as well as products and services derived from this information, including credit scores, to lenders and other organisations. CRAs' mission is to help creditors lend responsibly, and borrowers get access to fair and affordable credit.

The most common users of CRAs are banks, leasing companies, credit card and retail credit suppliers as well as mortgage providers and credit unions, telecommunication, insurance, mail order and / or utility companies. Consumers can also use CRAs services directly.

About ACCIS

ACCIS is the voice of companies responsibly managing data to assess the financial credibility of consumers and businesses. Established as an association in 1990, ACCIS brings together more than 40 members from countries all over Europe as well as associates and affiliates across the globe.

The information held by CRAs is shared by the lenders/users themselves and relates to the borrowers' past credit and current repayment behaviour. CRAs also collect information from public sources. CRAs add value by merging and analysing the information, which is then redistributed to lenders and other organisations who use it to assess the creditworthiness of people or businesses.

It is important to underline that **CRAs do not conduct CWAs nor take the final decision to grant or not credit**. Similarly, CRAs do not decide whether someone is offered a utility or mobile phone contract on a credit basis. The creditworthiness evaluation as well as the final decision to grant credit or choose the type of contract resides entirely with the lender/ service provider. In meeting the obligation to assess creditworthiness, a lender typically considers its own data and processes, the data supplied by the borrower in the credit application, as well as the information (and services) provided by CRAs.

BENEFITS OF CREDIT REFERENCE AGENCIES

International institutions such as the World Bank have shown that data sharing on borrowers contributes to improving the risk profile of borrowers and increases access for more customers to credit markets[1].

For consumers	For creditors	For society
▪ Increased access to credit markets ▪ Increased choice ▪ Stronger protection from over-indebtedness ▪ Safer and fairer borrowing conditions	▪ Access to high quality, relevant information to make responsible lending decisions ▪ Allows smaller creditors that do not have much data to compete ▪ Reduces financial risk	▪ Increased financial inclusion ▪ Increased supply of affordable credit ▪ Reduces non-performing loans

ADVANCED AI IN CREDITWORTHINESS ASSESSMENTS AND CREDIT SCORING

[1] See https://www.worldbank.org/en/topic/financialsector/publication/general-principles-for-credit-reporting; Data sharing in credit markets: Does comprehensiveness matter? | European Credit Research Institute (ecri.eu)

With the increased availability of information, and more advanced methods and technologies such machine learning, credit scores are becoming more accurate and efficient. In this regard, AI has the potential to:

- **Improve outcomes for borrowers:** AI allows for individualised credit scores that better assess borrowers' creditworthiness and can assist in providing access to credit to people who may otherwise be denied it using a traditional mathematical technique.
- **Improve decision-making:** AI helps provide objective, consistent, data-driven decisions through analysis of borrowers' relevant credit data.
- **Support financial inclusion[2]:** AI supports financial inclusion, supporting access to credit for certain consumer groups (e.g., students, founders of promising businesses, people that have moved to a new country) that may otherwise have limited access to credit if their credit data file is too thin to assess using traditional techniques.
- **Enhance accuracy:** AI is more sensitive to real-time indicators of the potential borrower's creditworthiness, such as the current level of income, employment opportunities, and their potential ability to earn.
- **Reduce discrimination[3]:** AI models can be more precise than traditional models, therefore making fewer mistakes resulting in better performance metrics when it comes to objectivity and customer fairness.
- **Reduce the cost of lending[4]:** By increasing efficiency in risk management techniques, AI models can lower the costs of lending and provide opportunities to inspect and re-optimize lending decisions.

AI is, however, still a relatively new technology. We estimate that 90 – 95 % of the scoring models used today are based on traditional statistical techniques which have been in use for decades under the supervision of competent authorities. **Only 5-10% of all the models are based on new advanced AI, which includes machine learning techniques**. The potential of using AI in beneficial ways would be severely affected if an excessive burden of requirements is created for applications that today are already subject to an effective legal framework. Overregulating this technology will no doubt have an impact on the future competitiveness of European businesses.

EXISTING CONSUMER PROTECTION SAFEGUARDS

A robust body of provisions at European and national level ensures that consumers are protected when applying for credit and other essential services.

CRAs and lenders which use CRAs are subject to financial regulation and data protection regulation at both EU and member state level. Guidelines from the European Banking Authority on loan origination and monitoring cover credit decision-making processes that use automated and technology-enabled models. Consumers in other sectors where credit scores may be used (such as telecoms and energy markets) are also protected by sectoral and privacy regulation.

SAFEGUARDS FOR CONSUMERS INCLUDED IN EXISTING LEGISLATION
Vis-a-vis CRAs • Consumers can **ask a copy** of the information held in CRAs for free (the so-called credit report). This information is the one used in credit scores. • Consumers can **redress** any inaccuracies in the data held by CRAs and eventually used in credit scores. • CRAs must ensure their credit scores **are not discriminatory**. • CRAs can only use data to develop and train the score that has a legal basis for processing. • CRAs cannot use sensitive characteristics such as religion or race in their credit scores.

[2] See: https://blogs.worldbank.org/developmenttalk/leveraging-big-data-and-machine-learning-credit-reporting, and https://www.moodysanalytics.com/risk-perspectives-magazine/managing-disruption/spotlight/machine-learning-challenges-lessons-and-opportunities-in-credit-risk-modeling

[3] See: (PDF) Anti-discrimination Law, AI, and Gender Bias in Non-mortgage Fintech Lending (researchgate.net): *We observe ML models are less discriminatory .. compared to traditional statistical models*.

[4] Pages 31, 32 https://www.fsb.org/wp-content/uploads/P011117.pdf

- CRAs must perform an impact assessment of AI-based models and demonstrate that it is sufficiently accurate and avoids discrimination.
- CRAs ensure accountability, transparency and fairness to manage the risks to data subjects (consumers).
- All of the above are subject to the **supervision of data protection regulators**, who can verify whether a CRA is compliant or not, and if appropriate, impose fines.

Vis-a-vis Lenders

- Before granting credit, a lender is obliged to **perform a thorough CWA**, in the interest of the consumer, to prevent irresponsible lending and over indebtedness. Lenders typically use credit scores for this assessment as they allow them to take decisions in a more objective, fair and non-discriminatory way.
- If a lender uses scoring, they shall **inform** the consumer. This includes lenders' own scores, CRAs' scores and those provided by other organisations specialising in scoring.
- If the lender uses a third-party score (e.g., from a CRA) to assess creditworthiness, the lender is obliged to check that the **input is accurate and avoids discrimination**.
- If a credit application is refused, consumers have the following rights:
    - If refusal occurs on the basis of the consultation of a CRA, the lender must **inform the consumer of the result of such consultation** and provide the CRA details.
    - If refusal occurs as a result of an automated decision-making process, the consumer can ask the lender to **manually review the decision** and contest the decision.

PROPOSED REGULATORY TREATMENT UNDER THE AI ACT

The AI Act classifies AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score as high-risk (Annex III 5.b). The reasoning given for the proposed categorisation is that such systems are deemed to **determine people's access to financial resources or essential services** such as **housing, electricity, and telecommunication services** and "*may lead to discrimination of persons or groups and perpetuate historical patterns of discrimination, for example based on racial or ethnic origins, disabilities, age, sexual orientation, or create new forms of discriminatory impacts*" (Recital 37).

In addition, the AI Act labels traditional techniques and approaches that have been used in loan origination models for decades i.e., "statistical approaches, Bayesian estimation, search and optimization methods" as artificial intelligence techniques.

Together, those two elements of the Act mean that ALL algorithms used for creditworthiness assessment and credit scores would be classified as high risk - not just the ones that use new advanced AI techniques, but also those that use even the simplest techniques that have been used safely in credit for decades, such as logistic regression.

ACCIS POLICY RECOMMENDATIONS

1. Narrow the definition of AI systems so that it does not include traditional, low risk, and understandable techniques

Proposed amendments

Recital 6

Commission's Proposal	ACCIS
The notion of AI system should be clearly defined to ensure legal certainty, while providing the flexibility to accommodate future technological developments. The definition should be based on the key functional characteristics of the software, in particular the ability, for a given set of human-defined objectives, to generate outputs such as content, predictions, recommendations, or	The notion of AI system should be clearly defined to ensure legal certainty, while providing the flexibility to accommodate future technological developments. The definition should be based on the key functional characteristics of ~~the software, in~~ **artificial intelligence, distinguishing it from more classic software systems and modelling approaches such as logistic regression and**

decisions which influence the environment with which the system interacts, be it in a physical or digital dimension. AI systems can be designed to operate with varying levels of autonomy and be used on a stand-alone basis or as a component of a product, irrespective of whether the system is physically integrated into the product (embedded) or serve the functionality of the product without being integrated therein (non-embedded). The definition of AI system should be complemented by a list of specific techniques and approaches used for its development, which should be kept up-to-date in the light of market and technological developments through the adoption of delegated acts by the Commission to amend that list.	**other techniques that are similarly transparent, explainable and interpretable. In** particular, for the purposes of this Regulation, AI systems should be intended as having the ability, **on the basis of machine and/or human- based data and inputs, to infer the way to achieve a given set of human-defined objectives through learning, reasoning or modelling and,** for a given set of human-defined objectives, to generate **specific** outputs **in the form of** ~~such as~~ content~~,~~ **for generative AI systems (such as text, video or images), as well as** predictions, recommendations, or decisions, which influence the environment with which the system interacts, be it in a physical or digital dimension. **For the purpose of this AI Regulation,** AI systems ~~can be designed to~~ **should follow an approach with limited explainability and** operate with ~~varying levels~~ **a very high degree** of autonomy ~~and~~. **Such systems can** be used on a stand-alone basis or as a component of a product, irrespective of whether the system is physically integrated into the product (embedded) or serve the functionality of the product without being integrated therein (non-embedded). The definition of AI system should be complemented by a list of specific techniques and approaches used for its development, which should be kept up-to–date in the light of market and technological developments through the adoption of delegated acts by the Commission to amend that list.

Article 3.1

Commission's Proposal	ACCIS
For the purpose of this Regulation, the following definitions apply: (1) 'artificial intelligence system' (AI system) means software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with;	For the purpose of this Regulation, the following definitions apply: ~~(1) 'artificial intelligence system' (AI system) means software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with;~~ **'artificial intelligence system' (AI system) means a system that** **(i) receives machine and/or human-based data and inputs,** **(ii) follows an approach with limited explainability that infers how to achieve a given set of human-defined objectives through learning, reasoning or modelling implemented with the techniques and approaches listed in Annex I, and**

	(iii) generates outputs with a very high degree of autonomy in the form of content (generative AI systems), predictions, recommendations or decisions, which influence the environments it interacts with;

Justification

The definition of AI includes traditional models which do not fall under outlined AI characteristics. The Commission's own Impact Assessment (page 28 and Annex 5.2) refers to what new advanced AI is, referring to "*specific characteristics of AI systems which make them qualitatively different from previous technological advancements*". Such characteristics, outlined below, are not found in traditional techniques, such as logistic regression models:

Complexity

- Refers to the multiplicity of different components and processes. These parameters are in practice not understandable for their designers and developers.
- **Logistic regression has long been used in the financial services sector. It is - as the EBA acknowledges [link] - explainable and interpretable.**

Opacity / lack of transparency

- With respect to how the AI system functions as a whole (functional transparency); how the algorithm was realized in code (structural transparency) and how the program runs (run transparency).
- **Logistic regression is transparent in each case, not being a 'black box'- so potential breaches can be identified and proved.**

Continuous adaptation

- Process by which an AI system can improve its own performance by learning from experience.
- **Logistic regression models do not continuously adapt in this way. They are also predictable because they are stable and fully transparent.**

Autonomous behaviour

- Functional ability of a system to perform a task with minimum or no direct human intervention. This may lead to situations where an AI system may [take] actions which have not been fully foreseen by their human designers.
- **All steps in a logistic regression model are programmed and controlled by humans. While the process can be carried out with little human intervention there are no autonomous outputs.**

Data dependence

- The dependence of AI systems on data and their 'ability' to infer correlations can create risks, disproportionately adverse or discriminatory results, and reinforce systemic biases.
- **Logistic regression is transparent; data dependence risks are more controllable than those arising from advanced AI.**

2. Remove CWAs and credit scoring from the high-risk classification

Proposed amendment

Point 5(b) of Annex III

Commission's Proposal	ACCIS

5. Access to and enjoyment of essential private services and public services and benefits: b) AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score, with the exception of AI systems put into service by small scale providers for their own use;	~~5. Access to and enjoyment of essential private services and public services and benefits:~~ ~~b) AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score, with the exception of AI systems put into service by small scale providers for their own use;~~

Justification

There is no solid evidence to justify the high-risk treatment of CWAs and credit scoring

- The evidence and criteria presented by the Commission to conclude that more regulation is needed for the CWA/credit score use case is poor as regards risks relating to access to finance and even poorer with regard to other essential services.
- In fact, robust reports [link; link] on **housing exclusion** in Europe from the European Federation of National Organisation working with the Homeless, do not cite CWAs nor credit scores as causes for exclusion but other real systemic causes such as the lack of affordable housing, unemployment, lack of social protection or legal obstacles. The same applies to telecommunications and energy. The European Commission has carried out detailed work on the digital divide and how to overcome it, which shows no evidence that credit scores or creditworthiness assessments are a significant driver of exclusion from **telecommunications**. Similarly, a report for the European Parliament identified the three main causes of **energy poverty** as: energy prices, falling household incomes, and living in an energy inefficient home. Those causes again do not relate to creditworthiness or credit scores.
- In addition, the examples used are based on unproved complaints (**Open Schufa case**) or have identified discrimination that is not the result of flaws in AI-based credit scoring methodologies but human errors in the overall decision-making process (**Finnish case**).

AI-related risks are effectively mitigated by existing regulation

- The risk of potential discrimination is mitigated by existing horizontal (GDPR) and sectorial legislation (financial sector legislation, including the EBA guidelines on loan origination and monitoring) as well as national level regulations. This provides a clear legal framework for the CRA industry and their clients to ensure credit scoring models are adequately assessed, validated, and monitored, and consumer rights like the right to information, human revision and contest are ensured. Existing legislation also applies to AI-based products.

3. ALTERNATIVE TO 1 and 2 above: Remove linear, logistic regression and similar techniques from the high-risk classification and narrow the scope of CWAs/credit scores.

Commission's Proposal	ACCIS
5. Access to and enjoyment of essential private services and public services and benefits: b) AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score, with the exception of AI systems put into service by small scale providers for their own use;	5. Access to and enjoyment of essential private services and public services and benefits: b) **As of the adoption of specific common specifications pursuant to Article 41 of this Regulation**, AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score **in granting access to credit or other essential services**, with the exception of AI systems put into service by small scale providers for their own use **and AI systems that leverage on the standalone use under**

	human supervision of linear regression, logistic regression, decision trees and other techniques that are similarly transparent, explainable and interpretable.

Justification

Credit institutions regularly carry out, as part of their day-to-day business, certain activities to evaluate the creditworthiness of natural persons or establish their credit score. In doing so, credit institutions typically consider the information (and services) provided by third parties such as credit referencing agencies.

The AI Act qualifies those activities as high-risk merely because they are intended to be used in CWAs evaluations and credit scores.

Given the relatively high degree of standardisation and simplicity of some of these practices and in line with the ECB opinion on the AI Act, it should be possible to adopt common specifications to clarify when these AI systems can be presumed to be in conformity with the applicable requirements.

To minimise any hindrance to the use of these systems until these common specifications are adopted, it is also proposed that the entry into effect of the applicable requirements is postponed until the adoption of these common specifications, which should both spell out the conditions under which high-risk AI systems in this field shall be presumed to be in conformity with applicable requirements, and define when AI systems should be considered as put into service by small scale providers for their own use, and therefore fall within the scope of the exemption from qualification as a high risk AI system.

Additionally, the creditworthiness assessment process can be broken down into several stages. For example, the verification of the natural person's identity, the selection of the relevant factors that could influence the person's ability to meet his/her obligations, the verification of his/her underlying income capacity and repayment history, etc. AI systems can be deployed at each of those steps. Only systems in CWA processes that are used to determine access to credit / other essential services should be in the focus of regulatory attention. Consequently, AI systems used in the wider credit process should be excluded[5]. AI systems used for credit scores provided by third parties (such as CRAs) should be excluded as they are only one input into the CWA / scoring / decision making of a lender/service provider, and hence do not determine whether credit is granted or not.

Finally, AI systems intended to be used to evaluate the creditworthiness of natural persons or establish their credit score and which leverage on the standalone use of linear regression, logistic regression or decision trees under human supervision should not be classified as high-risk AI systems. Those models have long been used in the financial services sector, in line with supervisory expectations that follow a technology-neutral approach. Those expectations and that neutrality could be jeopardised as a result of "automatically" subjecting the vast majority of credit scoring activities making use of AI to new horizontal minimum requirements.

[5] For example, a categorization engine that uses ML to categorize raw transactional data from a consumer´s bank account into pre-defined categories classifies data but does not evaluate the creditworthiness of a person nor provides a score. Categorized transactional data is only one input that can be used in the decision-making process.

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