TC ABSTRACT

I.   Basic Project Data

▪ Country/Region:	REGIONAL/IDB
▪ TC Name:	Evaluating AI interventions to reduce bias
▪ TC Number:	RG-T4601
▪ Team Leader/Members:	DURYEA, SUZANNE (SCL/GDI) Team Leader; SOARES, YURI SUAREZ DILLON (LAB/STI) Alternate Team Leader; APARICIO LINALE, GABRIELA (DSP/DVF); BERNAL LOPEZ, JUANITA (SCL/GDI); RACHTER DE SOUSA DIAS, LAISA (SCL/GDI); MORAES AMORIM, LUANA; ECHEVERRY PENON, ISABELA (DIS/CCO); CARRASCO, CAROLINA E.; VENTOCILLA GUERRA MARIA CLAUDIA (LAB/STI); BELTRAN ROSAS ANDREA CRISTEL (SCL/GDI); SENRA, ROCIO (SCL/GDI); DIAZ GILL VIRGINIA MARIA (LEG/SGO)
▪ Taxonomy:	Research and Dissemination
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	27 Aug 2024
▪ Beneficiary:	Colombia and Brazil
▪ Executing Agency:	INTER-AMERICAN DEVELOPMENT BANK
▪ IDB funding requested:	US$125,000.00
▪ Local counterpart funding:	US$0.00
▪ Disbursement period:	36 months
▪ Types of consultants:	Individuals
▪ Prepared by Unit:	SCL/GDI - Gender and Diversity
▪ Unit of Disbursement Responsibility:	SCL/GDI - Gender and Diversity
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	Yes
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Social inclusion and equality ; Productivity and innovation ; Afro-descendants; Gender equality; Diversity

II.   Objective and Justification

2.1   This technical cooperation aims to evaluate the effectiveness of two highly innovative and scalable AI interventions aimed at reducing discrimination in credit scoring and hiring decisions by removing information considered to be irrelevant to the decision at hand. Quipu is a Fintech platform in Colombia that uses AI to calculate a credit score for microentrepreneurs who are excluded from formal credit due to a lack of a credit history. Jobecam is an HR tech platform in Brazil that applies AI techniques to anonymize gender and other demographic information of job candidate CVs and interviews. AI technologies to remove bias are sweeping private industry and being adopted in the public sector as well. At the same time, few studies exist on the impact of these technologies across gender and race. The objective of the technical cooperation is to evaluate the impact of the AI algorithms in these two technologies on women and Afro descendants, and specifically measure the differential effects of these AI algorithms in the decisions about credit approval and hiring-related decisions.

2.2   One in four firms in LAC are run by women, with growth and productivity constrained by gender-related barriers to financing. Women-owned small and medium enterprises in LAC face a larger credit gap than in any other region (IFC, 2017). A randomized correspondence study in Chile found that women were 18% less likely to be approved for loans than men (Montoya et al., 2020). In Colombia, women are 5% less likely to

access microcredit and if approved, receive amounts that are 16% lower than those approved for men.

2.3 Racial bias in credit and hiring decisions has also been documented in the region. Studies in Mexico have found that Afro descendants were 12 ppts more likely to be rejected for credit, controlling for other observable factors (Hernandez-Trillo and Martinez-Gutierrez, 2022). A recent study of Brazil has found that employer preferences for white workers explains approximately 6-7% of the racial wage gap (Gerard et al., 2021).

2.4 This technical cooperation aims to evaluate the effectiveness of two highly innovative and scalable AI interventions aimed at reducing discrimination in credit scoring and hiring decisions by removing information considered to be irrelevant to the decision at hand. AI technologies to remove bias are sweeping both private industry and the public sector. At the same time, few studies exist on the impact of these technologies across gender and race.

2.5 Quipu is a Fintech platform that uses AI to calculate a credit score for microentrepreneurs who are excluded from formal credit due to a lack of a credit history. Quipu has provided credit to 7000 microentrepreneurs since 2022 and is expanding rapidly. Quipu has partnered with Quantil, a company specialized in optimizing AI algorithms to remove potential biases. The AI algorithm uses information relevant to credit such as transaction information and banking information, but not the gender or race of the entrepreneur to determine creditworthiness. The innovations in the credit model allow Quipu to reach clients who would otherwise only have access to informal credit; however, they have yet to demonstrate the effectiveness of credit for this population.

2.6 Jobecam is an HR tech platform in Brazil that applies AI techniques to anonymize gender and other demographic information of job candidate CVs and interviews. Identifying information including names, age, gender, and race is removed from CVs. Pre-recorded and/or live-stream interviews are presented to recruiters with an anonymized image and anonymized voice (without gender) of the candidates. The Jobecam technology is a significant advancement in that it uses AI technology to anonymize voice and appearance in the remote interview phase of hiring.

2.7 This TC supports analytical products associated with companies that are being financed by IDB Lab (CO-G1050 and BR-G1021). The results of the TC will generate knowledge regarding the potential impact in improving living conditions for those who are excluded from lending (Quipu) or from labor markets (Jobecam). The objective of the TC is to evaluate the impact of the AI algorithms in these two technologies on women and Afro descendants, and specifically measure the differential effects of these AI algorithms in the decisions about credit approval and hiring-related decisions.

III. Description of Activities and Outputs

3.1 **Component I: Component I ($50,000). Data Collection.** This component will finance the design of changes to existing data collection platforms and processes necessary for conducting the studies.

3.2 **Component II: Component II ($75,000) Evaluation Studies of AI Technologies.** This component will finance the implementation of the experiments, the analysis of the data, and the impact assessment at 6 months and the final evaluation reports at 12 months.

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component I ($50,000).	US$50,000.00	US$0.00	US$50,000.00

Data Collection			
Component II ($75,000) Evaluation Studies of AI Technologies	US$75,000.00	US$0.00	US$75,000.00
Total	**US$125,000.00**	**US$0.00**	**US$125,000.00**

V. Executing Agency and Execution Structure

5.1 As a regional research and dissemination TC, the Bank will act as the executing agency. The UDR will be SCL/GDI. The Bank will follow its procurement policies and guidelines related to contracting processes: (i) individual consultants will be hired according to the guidelines established in policy AM-650; (ii) consulting firms of an intellectual nature will be hired according to the "Policy for the selection and contracting of consulting firms for operational work carried out by the Bank" (GN-2765-4) and its Operational Guides (OP 1155 4); and (iii) other non-consulting services in accordance with the "IDB Institutional Procurement Policy" (GN-2303-28).

5.2 Team members from GDI, IDB Lab, and IDB Invest have extensive experience with leading the type of evaluation methodology applied in this project.

VI. Project Risks and Issues

6.1 The main risk associated with the experiments to be carried out by Quipu and Jobecam is that the company strategy becomes incompatible with carrying out the agreed experiments, and as a consequence, they are not completed. As both companies are pursuing ambitious growth objectives, alignment of the experiment with the critical path for funding and growth for both Quipu and Jobecam is fundamental. We see an impact evaluation as an important analytic input that would validate the value added of each of the two companies with clients, partners, and funders, therefore we see the risk as mitigated. Furthermore, since Jobecam relies on a client to serve as a host for the experiment, the experiment's success will depend on confirmation and commitment of this company to serve as host of the experiment in its hiring decisions. This last risk can be mitigated by actively pursuing potential client companies by IDB Invest and IDB Lab.

VII. Environmental and Social Aspects

7.1 This TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).