Descripción del proyecto
"*Economic Challenges of Latin American Cities within the framework of the SDG, a disruptive vision on how to tackle them*" para el desarrollo de potenciales tesis doctorales dentro del grupo RiSE.

RiSE-group
Departamento de Ciencias Matemáticas
Escuela de Ciencias
Universidad EAFIT
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Habilidades mínimas requeridas para cualquier candidato interesado:
- Excelente manejo de bases de datos
- Manejo de lenguaje Python y STATA
- Buen nivel de Inglés
- Estudios en Economía.
- Manejo básico de Sistemas de Información Geográfica
- Buen nivel de escritura académica (excelente nivel de redacción)
- Excelentes notas en cursos cuantitativos a nivel de pregrado y maestría (estadística, econometría, optimización, etc.)

Project title: Economic Challenges of Latin American Cities within the framework of the SDG, a disruptive vision on how to tackle them
Timeline: 1/10/2018 - 31/12/2021 (3 years and 2 months).
Project Leader: Eduardo Lora & Mauricio Quiñones.
Researcher(s): Mauricio Quiñones, Jorge Patiño, Jairo A. Gomez, Eduardo Lora, Juan C. Duque.
PEAK dynamic: Prediction and projection; Emergent urbanisms.

Introduction (300 words maximum)

We aim to contribute to the SDG 8 ("promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all") by combining our expertise in areas such as economics and public policy, spatial analysis, geography and geographic information science, with methodological tools such as econometrics (classic and spatial), image processing, machine learning, and optimization techniques. In this multidisciplinary context we expect to propose innovative strategies for addressing the following socio-economic structural weaknesses in Latin American Cities (LAC) highlighted by Gasparini, Bracco, Galeano, and Pistorio (2018):

1) High informality – i.e., economic activities, production, and employment outside of governmental formal regulation. According to the International Labor Organization (ILO, 2018), the urban labor informality in Latin America is around 47.5%.

2) Growing spatial mismatch – i.e., increasing commuting distance between the location of job seekers and the location of opportunities. According to CAF (2017), in LAC a one-way commute takes, on average 42 minutes.

3) Low social mobility – i.e, a low probability of low-income population reaching a higher level of income. According to OECD (2018), the number of generations that it takes for an individual in a country to get the country's mean income, on average is 4.5. For the Latin American countries in the study the number of generations are 6 for Argentina and Chile, 9 for Brazil and 11 for Colombia.

This project addresses the previous socio-economic challenges to stimulate the cross-fertilization of ideas, aiming to deliver comprehensive and integral solutions. As part of the project, we will also consider the role of intra-urban spatial heterogeneities as a transversal component for designing robust and spatially targeted cost-effective policies. We will focus initially on Colombian cities. We expect to expand our geographical scope to other LAC, Asian and African cities in later project stages based on data availability and mutual research interest from other PEAK partners.

Aims and research questions (100 words maximum)

Table 1. Research Questions.

Question	SDG Target
1. Which innovative solutions could we formulate to foster formal and sustainable economic growth in LAC cities?	8.3, 8.5
2. What are the alternatives for diagnosing and reducing the mismatch between location of low-income households and suitable job opportunities via urban land use re-allocation?	8.3, 8.5
3. What novel elements of public policy can contribute to increase social mobility in LAC cities?	8, 10.1