



2022 Fall Semester RA Program

Background

The [Growth Lab](#) is launching a part-time RA program to engage HKS students to work on research questions relevant to the Lab's ongoing projects and research themes. Teams at the Growth Lab work on a unique blend of academic research and real-world policy engagements that leverage many skills and concepts that are taught at HKS. These RA opportunities aim to expand participating students' learning experiences while also contributing to the Growth Lab's research and impact.

General Guidelines

Interested students are invited to apply for one or more RA positions on the topics listed below and/or propose new research topics. Applicants should have a developed skillset for economic analysis and a strong interest in public administration in developing countries and lower income communities. RAs' work will be supervised by Growth Lab researchers, staff, Professor Ricardo Hausmann and/or other topic experts affiliated the Growth Lab. The following pages summarize a variety of positions with expected time commitments and qualifications described for each. Students are welcome to apply to multiple positions but are encouraged to apply to no more than three positions. We also welcome proposals for research that aligns with the Lab's research. If you have a topic where you are prepared to do independent research and seek engagement with the Growth Lab, you may submit a research proposal. See instructions below.

- **Duration:** RA positions will vary in length and expected time commitment. Please see details on following pages. Many positions are expected to include the option to continue work in January and spring semester.
- **Application materials and deadline:** Application deadline is **Friday, September 30, 2022**. Prospective candidates are requested to submit the following materials:
 - *CV or resumé*
 - *Brief cover letter or statement of interest:*
 - *Please indicate which roles you are applying to and answer the specific questions indicated for those positions.*
 - *If you are proposing a new research topic other than the*

opportunities listed below, include a one-page research proposal clearly delineating your research questions, how and why they are relevant for policymaking as well as the Growth Lab's research agenda, and the analytical approach you propose to take.

- *Latest transcripts available*

Please send your application to growthlab_cid@hks.harvard.edu with the subject line: **Growth Lab Fall Semester RA: First and Last Name**. Please clearly indicate which role(s) you are applying to in the body of the email.

Questions? Please feel free to email [Alicia Galinsky](mailto:Alicia.Galinsky@hks.harvard.edu), Senior Program Coordinator

Current Opportunities

1. Data-Driven Visual Stories

Description: Using the [Atlas of Economic Complexity](#), and especially [Metroverse](#), create data-driven "stories" that surface trends, ideas or concepts in a location(s) (see [example](#)). Students will draft these stories as a short (i.e. 250 words) narratives accompanied by a set of visualizations (stories can be supported by visualizations derived from the tools themselves or by your own original designs). Students will then work with the Growth Lab's digital development team to refine the story in to a single-page website that fits our visual language and can be shared broadly.

Looking for: 2-3 students, each working 4-5 hours per week

Experience/qualification: Students with a strong grasp of Growth Lab concepts presented in our digital tools (i.e. complexity, diversification, know-how, trade data, etc.)

Expected deliverable: Final draft document containing a short, compelling narrative plus accompanying visualizations.

Short answer questions:

- What is your level familiarity with the Atlas of Economic Complexity and Metroverse?
- What are some editorial examples of visual storytelling that you find compelling and inspirational?

2. Green Growth – Creating a Knowledge Graph & More

Description: Create a knowledge graph that bridges scattered knowledge of low-

carbon green transitions and enable a holistic view of opportunities and risks for green growth via the integration with economic complexity methods and tools. This specific task will be undertaken with the Growth Lab's academic team, while the Growth Lab also welcomes broader expressions of interest in line with green growth strategies (see background [here](#) and [here](#)).

Looking for: 2-3 students, each working 6-10 hours per week

Experience/qualification: Students familiar with climate topics/green technology, and NLP skills preferred

Expected deliverables: (1) compiled knowledge base of low carbon transition in literature; 2) cleaned structural data mapping knowledge to standardized industry/product/technology/region codes (i.e. knowledge graph); (3) Integration with methods of economic complexity and policy implications

Short answer questions:

- Are you familiar with literature (articles/reports/databases/etc.) on climate change/green growth/other sustainability issues? Will you be able to help identify the potential data sources on these topics and codify them into structural knowledge?
- Are you familiar with traditional and/or modern natural language processing methods and tools?

3. Economic Complexity and Growth Miracles

Description: This engagement will have two workstreams: (1) Supporting the academic research team in preparing stylized facts on past growth miracles and how the economic complexity approach can help explain these. (2) Helping to analyze the related literature.

Looking for: 1 student, 10 hours per week

Experience/qualification: Students familiar with Stata

Expected deliverables: The student will have bi-weekly meetings with members of the academic research team and compile data and stylized facts on macroeconomic development and export diversification as discussed in these meetings.

Short answer questions:

- What prior experience do you have with Stata and could you provide examples?
- What experience of academic/policy writing do you have?
- What knowledge of the literature on macro-development do you have? What

knowledge of the literature on macro-development do you have?

4. Genotypic Approach to the Product Space

Description: The genotypic approach to the product space starts from data on input requirements by industries and uses this data to analyze industry-similarities and patterns of entry into new industries by countries, among others. The student will support the academic team in compiling and analyzing data that is informative for the genotypic approach.

Looking for: 1 student, 10 hours per week

Experience/qualification: Students familiar with Stata, Python, or Matlab

Expected deliverables: The student will have bi-weekly meetings with members of the academic research team and identify, compile, and analyze data on input requirements by industry as discussed in these meetings.

Short answer questions:

- What prior experience do you have with Stata, Python, or Matlab?
- What knowledge of the product space and the 'capabilities-based' view on production (scrabble metaphor) do you have?

5. Transcribing and Drafting Book Chapters on Economic Complexity

Description: Prof Hausmann has been recording his thoughts on complexity on Zoom sessions around a book outline related to economic complexity. We need an RA literate on economic complexity thinking to transcribe and create a first draft of the chapters.

Looking for: 1 student, 6-10 hours per week

Experience/qualification: Knowledge of economic complexity and editing experience

Expected deliverables: Converting recorded material on specific topics related to complexity into chapters on a weekly basis.

Short answer questions:

- What experience do you have with editing?
- How familiar are you with the complexity paradigm?

6. Agriculture – Smallholder Complexity & Putting Collective Land to Work

Description: The agriculture engagement will have two workstreams: (1) Developing a framework to determine products that are suitable for smallholder farming agriculture and its integration into markets. (2) Developing case studies that can support the systematic analysis on productive models and opportunities for agricultural development in collectively owned land. The initial discussion will be bounded to current Growth Lab applied projects (South Africa, Namibia, Ethiopia, etc.) but the aim is to develop tools to use in future engagements that require the analysis of agriculture.

Looking for: 2 students, each working 6-10 hours per week

Experience/qualification: Students familiar with agriculture and rural development policies and administrative data. Skills in GIS/mapping and maybe (ideally) satellite data analysis is desired.

Expected deliverables: This work is intended to be exploratory and deliverables toward frameworks and case studies will be defined during the semester.

Short answer questions:

- What initiatives do you know of that integrate smallholder farmers into supply chains? How would you determine the success of these initiatives?
- What characteristics make a product suited for smallholder farming over large-scale commercial agriculture?
- How do you think that the ownership of land affects the growth and economic inclusion of small farmers?
- Are you familiar with FAO databases and using satellite data?

7. Remoteness – Literature Review & Data Analysis

Description: The Growth Lab is developing a flagship report on the development effects of — and policy responses to — remoteness. In doing this, we want to incorporate students to help us develop a comprehensive review on the broad academic and policy literature on the matter at the national, regional, and urban levels. We also want to incorporate students to help us with complementary data analyses regarding our work on trade and telework. Students may focus on literature review or data analysis or both depending on experience and interest.

Looking for: 2 students, working 10 hours per week

Experience/qualification: (1) Management of reference management tools (i.e. Zotero, etc.), excellent writing skills, research experience. (2) General data analysis / economic research experience with R and/or Stata. Interest/experience in spatial/geographic analysis.

Expected deliverables: (1) Literature review for the different segments of the

remoteness analysis. (2) Code and analysis slides for work on international remoteness.

Short answer questions:

- What prior academic/policy writing experience have you had, and what written reports that you have participated in could you point us to? What was your specific role in those efforts?
- What prior academic/policy quantitative analysis experience have you had? What written reports have made use of such analysis? What was your specific role in the quantitative analysis effort?

8. Glocal Datasets – Data Aggregation & Data Collection

Description: The Growth Lab is developing a set of “Glocal” datasets (globally comparable, locally precise) on a number of economic, ecological, demographic and political markers. For this purpose, we want to incorporate students to help us in processing different sources to create additional variables to add to the final dataset. Also, we want to incorporate students to help us scrape data from online sources and process them to generate additional “glocal” fields to add to the final dataset.

Looking for: 2 students, each working 10 hours per week

Experience/qualification: Web-scraping + Geo-spatial analysis on Python and/or R

Expected deliverables: New fields added into the Growth Lab Glocal dataset.

Short answer questions:

- What prior academic/policy quantitative analysis experience have you had? What written reports have made use of such analysis? What was your specific role in the quantitative analysis effort?

9. Crime Data – Creating a Visualization Dashboard

Description: Researchers in the Growth Lab are currently engaged in research regarding the economic and enforcement determinants of violence. To better enable the assessment of a set of unique datasets on the matter, we want to incorporate students to help us develop a data visualization dashboard of specific characteristics, under the supervision of both our research and our visualization teams.

Looking for: 1 student, 10 hours per week

Experience/qualification: Dashboard creation with R-Shiny, Python-Dash, PowerBI and/or Tableau or other similar tools

Expected deliverables: Online dashboard

Short answer questions:

- Have you had experience developing online dashboards for decision making? Could you explain us what the tool was about and what decisions were informed with it? What was your role in its development?

10. Research on the Venezuelan Refugee Crisis

Description: In order to better assess its economic and political effects on host communities, we want to measure and predict migration patterns during the Venezuelan Refugee Crisis — a crisis of a similar magnitude to the Syrian and Ukrainian crises. Importantly, we want to assess whether patterns of ecological similarity between home and host communities help predict bilateral moves.

Looking for: 1 student, 10 hours per week

Experience/qualification: General data analysis / economic research experience with R and/or Stata

Expected deliverables: Origin-Destination Migration Matrix + Ecological similarity matrix

Short answer questions:

- What prior academic/policy quantitative analysis experience have you had? What written reports have made use of such analysis? What was your specific role in the quantitative analysis effort?

11. Research on Political Favoritism

Description: In studying how autocrats distribute rents in pursuit of regime stability, we want to gather, develop, and analyze a diverse number of datasets with the help of our students. These involve, but are not limited to, the distribution of power generation equipment, national budget transfers and government appointments during the Venezuelan economic crisis of 2014-2019. The work also implies supporting the writing and literature reviews for a number of research projects in the same setting.

Looking for: 1 student, 10 hours per week

Experience/qualification: General data analysis / economic research experience with R and/or Stata + Management of reference management tools (i.e. Zotero, etc.), excellent writing skills, research experience

Expected deliverables: Complementary datasets + Literature reviews and written documents

Short answer questions:

- What prior academic/policy writing experience have you had, and what written reports that you have participated in could you point us to? What was your specific role in those efforts?
- What prior academic/policy quantitative analysis experience have you had? What written reports have made use of such analysis? What was your specific role in the quantitative analysis effort?