THE BETTER POLICY PROJECT

Open-Source Economics Workshop

May 19 - 30, 2025

Chulalongkorn University

Bangkok, Thailand

Table of Contents

Introduction

Welcome to **The Better Policy Project (BPP)**, a distinguished institution in Portugal dedicated to excellence in policymaking and economic analysis.

At BPP, innovation is at the core of everything we do. We continually seek new ways to push the boundaries of economic analysis and policymaking, ensuring that our programs remain at the forefront of industry trends. Moreover, we strongly believe in the power of global cooperation and collaboration. By fostering partnerships with institutions and experts worldwide, we enrich our programs with diverse perspectives and experiences. Additionally, we are committed to **democratizing** access to knowledge. Through open-access resources, online platforms, and collaborative initiatives, we strive to make our expertise accessible to everyone who is interested, regardless of geographic location or background.

BPP offers a comprehensive array of solutions and training programs tailored to empower economists and policymakers worldwide. In this document, we provide an overview of the extensive range of training, courses, and opportunities available through BPP.

6+

Years of operations

25+

Institutions

300+

Students

The Better Policy Project

About Us

Nestled amidst the picturesque landscapes of Portugal, The Better Policy Project (BPP) is known for its innovative approach to policymaking. With our headquarters strategically located in the vibrant urban hub of Lisbon and sun-kissed Algarve, our journey started in the year 2019.

In response to the unprecedented challenges brought by the global COVID-19 pandemic, BPP swiftly pivoted its operations to the digital sphere, leveraging technology to ensure continuity in our endeavours. However, as the world recovered from the pandemic, we took the chance to bring back in-person events. Starting from the end of 2022, we organized a series of exciting events, in collaboration with the Central Bank of Armenia's Dilijan Training and Research Centre, in the beautiful locations of Algarve, Portugal, and Dilijan, Armenia.

Despite returning to in-person events, we made the most of online platforms, ensuring that our events were hybrid to provide opportunities to participants worldwide.

Mission

Our main aim is to help policy-making institutions build better and more efficient policy frameworks, improve transparency and communication, and promote a better work-life balance.

Vision

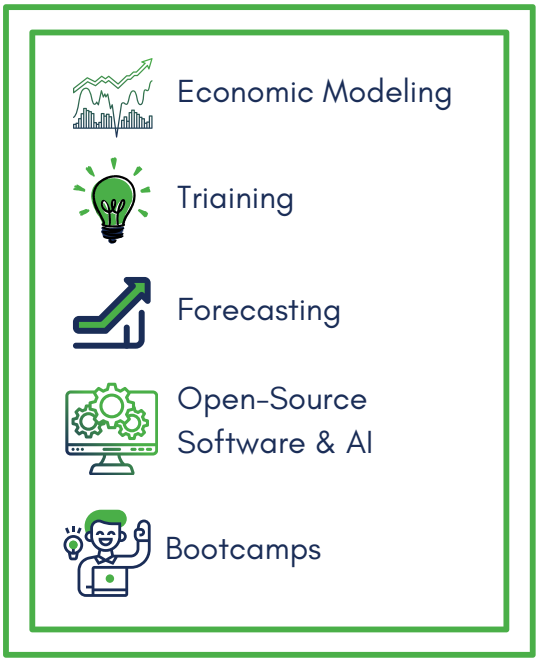
Our ambitions stretch across borders. We are dedicated to building a worldwide community of economists and policymakers who share a passion for sharing knowledge and solving problems together.

AI Revolution

BPP is pioneering AI technologies to revolutionize macroeconomic modeling and economic operations. These innovations include enhanced forecasting, decision-making tools, and streamlined human resource processes.

The Better Policy Project

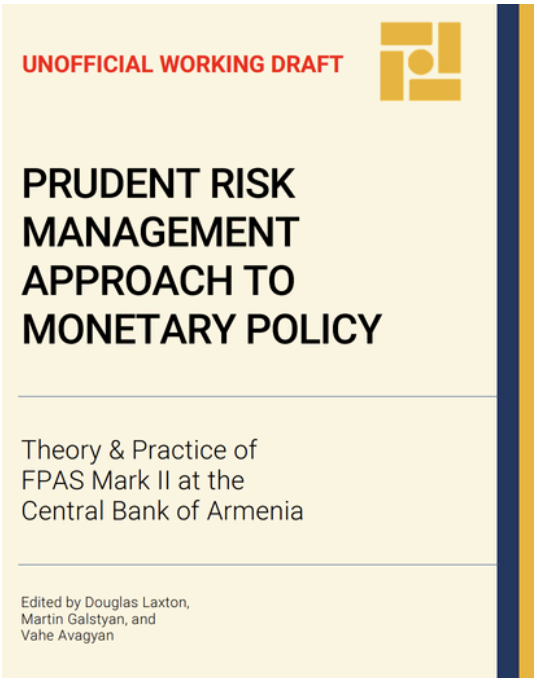
Through a range of engaging seminars and workshops, we've had the honor of hosting esteemed experts in the field including Larry Summers, Charles Goodhart, Athanasios Orphanides, John Taylor, Michael Bordo, James Hamilton, Lawrence Christiano, Michel Juillard, Junior Maih, and a multitude of other esteemed economists. Their ongoing collaboration continues to serve as an invaluable source of wisdom and guidance, driving our efforts towards impactful change.



Our collaboration with renowned economists like David Archer, Robert Ford, Ioannis Halikias and Hamid Faruqee, along with the Central Bank of Armenia, led by Governor Martin Galstyan and Vice Governor Armen Nurbekyan, as well as all the esteemed Board members, has resulted in the development of a new and improved Forecasting and Policy Analysis System, known as **FPAS MARK II**. This upgraded system is tailored to improve the previous versions of FPAS. We've established the entire infrastructure, including a range of models, from simple linear ones to more advanced non-linear and DSGE models, as well as programs for recruiting and training staff, improving institutional transparency, and efficient schedules for policy discussions and decision-making.

FPAS MARK II is specifically designed to handle uncertainties and complexities in the economy more effectively, providing a stronger framework for managing unexpected events. All our processes are thoroughly documented in various working papers and an upcoming book (links to be provided). The Central Bank of Armenia has become the first in the world to adopt FPAS MARK II. Its launch was accompanied by a significant symposium held on January 11-12, 2024.
https://www.youtube.com/@thebetterpolicyproject

Our Solutions



In today's dynamic economic landscape, central banks (CBs) implementing Flexible Inflation-Targeting (FIT) policies rely heavily on forward-looking approaches to guide their decision-making processes. A crucial aspect of this approach is the availability of an effective organizing framework that aids in understanding the implications of alternative policy choices and facilitates decision-making amidst uncertainty. Saddle Point Research (SPR) proposes a collaborative effort to further advance policy analysis capabilities by evolving the Forecasting and Policy Analysis System (FPAS).

Developing an Advanced FPAS Framework

- Refine the existing FPAS framework to better accommodate the evolving needs of policymaking.
- Incorporate advanced methodologies to manage uncertainties and risks inherent in policy decisions.
- Provide tools for structured scenario analysis to assess the implications of alternative policy choices.

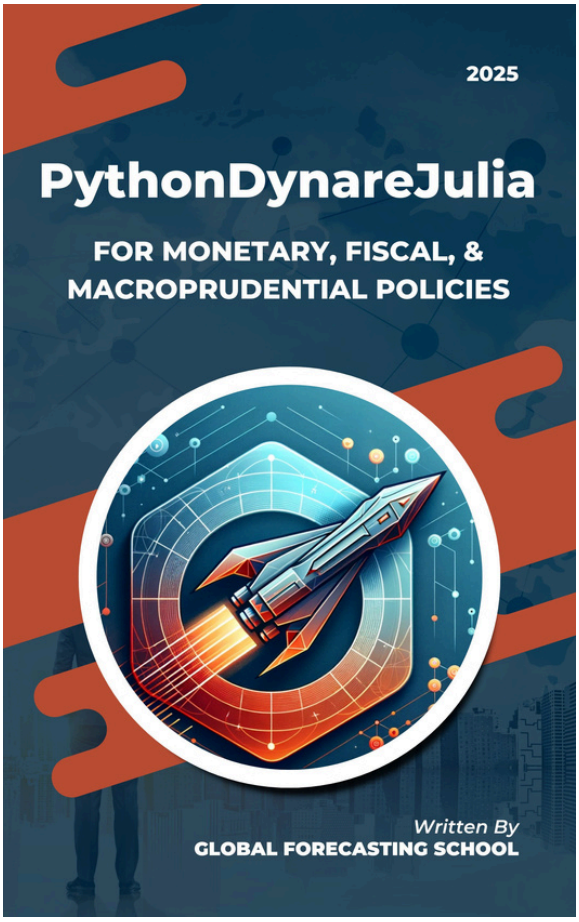
Training and Capacity Building

- Establish training programs focused on core knowledge areas essential for conducting policy analysis using FPAS.
- Offer workshops, seminars, and online courses to equip policymakers with practical skills in scenario analysis and risk management.
- Facilitate knowledge transfer through expert-led sessions and peer-to-peer learning opportunities.

Our Solutions

Coaching in Essential Policy Analysis Areas

- Modern Monetary and Macroprudential Policy frameworks: Principles and Application to FPAS.
- Best and Worst Practices: Central Bank Efficiency, Monetary Policy Transparency, and Communications.
- Closed-Economy and Open-Economy semi-Structural Models in DYNARE and their Application to FPAS Mark II.
- Policy Modeling in Open-Source Software: PythonDynareJulia.
- Monetary Policy Model with Endogenous Policy Credibility.
- DSGE Economics and Collection of Some Useful and Not-So-Useful DSGE Models.



Collaboration and Knowledge Sharing

- Create a collaborative platform for central banks and policymakers to share best practices and insights.
- Encourage participation in joint research projects to advance the field of policy analysis and economic forecasting.
- Establish a network of FPAS practitioners to support ongoing learning and innovation.

Our Solutions

Capacity Building	Country-specific development of forecasting and policy analysis infrastructure with our experts.
Daily Meetings	Engage in interactive daily meetings for guidance, progress updates, and addressing queries.
Online and In-Person Training	Access high-quality training materials and expert instruction through a blend of online and in-person sessions.
Hands-On Workshops	Apply theoretical concepts in practical scenarios, gaining actionable skills for real-world challenges.
Interactive Sessions	Interact with industry experts, participate in discussions, and build valuable connections with peers.
Comprehensive Curriculum	Receive training on economic theory, data analysis, modeling techniques, AI, policy analysis, and more.
Courses	Opportunity to be involved in all our courses and bootcamps.

Open-Source Economics Workshop

Welcome to the **Open-Source Economics Workshop**, an immersive in-person program designed to guide students from the absolute basics to a comprehensive understanding of macroeconomics and data science. Utilizing powerful open-source tools like Python, R, and DynareJulia, this workshop offers a robust curriculum tailored to equip participants with the skills needed for advanced economic modeling and forecasting.

Over the past few years, we have established a strong reputation for delivering high-quality educational programs. Our previous summer schools in Portugal and Armenia have been particularly successful, known for their rigorous academic content and practical, hands-on approach. We are excited to bring this expertise to our current workshop, ensuring participants receive top-tier instruction and valuable experience.

Join us at the Open-Source Economics Workshop and embark on a transformative learning experience. Whether you are a student, researcher, or professional, this workshop will provide you with the knowledge and skills to excel in the dynamic field of economics.

May 19 - 23, 2025	**Python for Economists**
May 19 - 23, 2025	**R for Economists**
May 19 - 23, 2025	**Applied Macroeconomic Policy Modeling**
May 19 - 23, 2025	**AI in Economics and Finance**
May 26 - 30, 2025	**Macroeconomic Modeling in DynareJulia**

Open-Source Economics Workshop

Meet Our Experts

Douglas Laxton
The Better Policy Project

Asya Kostanyan
The Better Policy Project

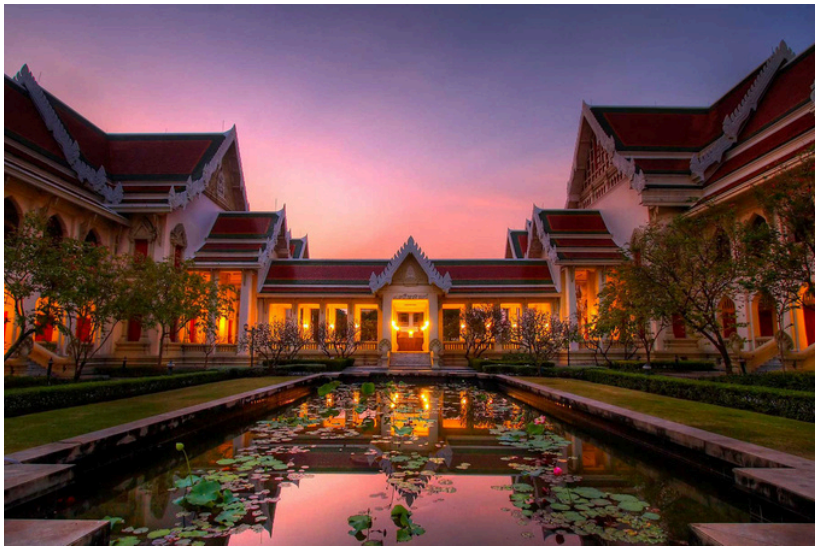
Timur Magzhanov
Bocconi University

Haykaz Igityan
Central Bank of Armenia

Aleksander Hycnar
Sciences Po Paris

Location

Chulalongkorn University, Bangkok, Thailand



Price

1000 Euros Per Participant Per Course

R for Economists

May 19 - 23, 2025
10:00 - 17:00 Bangkok Time

In Person

Why R? And Why Now?

- **Precision Tool:** R has been the go-to for statisticians and data miners. Its power in statistical modeling and graphics is renowned.
- **Extensive Libraries:** With a rich ecosystem of packages tailored for a wide range of statistical techniques, R offers tools for every need.
- **Community-Driven:** R's growing community ensures constant updates, new packages, and a wealth of shared knowledge.

Tailored for Economists: R's capabilities resonate particularly well with the needs of economists, making data manipulation, analysis, and visualization more intuitive than ever.

Day 1: Introduction to R

- Introduction to R & RStudio.
- Basics of Data Manipulation.
- Data Aggregation & Summarization: Methods for aggregating and summarizing data.

Day 2: Data Visualization and Exploration

- Data Visualization with ggplot2.
- Advanced Visualization Techniques: Complex visualization methods for informative charts and graphs.

Day 3: Statistical Modelling for Economists

- Regression Analysis: Principles and applications of regression analysis.
- Time Series Analysis: Techniques for analyzing time series data.
- Econometric Models in R: Applying econometric models to analyze data.

Day 4: Advanced Data Techniques and Reporting

- Working with Larger Datasets: Efficiently handle and analyze larger datasets.
- R Markdown for Reporting: Create dynamic and reproducible reports.
- Shiny for Interactive Web Apps: Develop interactive web applications.

Day 5: Machine Learning for Economic Analysis

- Introduction to Machine Learning in R.
- Regression and Classification Models: Predict economic outcomes using regression and classification models.
- Clustering and Dimensionality Reduction: Techniques for uncovering hidden data structures and simplifying analysis.

Python for Economists

May 19 - 23, 2025
10:00 - 17:00 Bangkok Time

In Person

Python is a crucial programming language in today's digital age due to its versatility and ease of use. Its simple syntax allows beginners to quickly grasp programming, while powerful libraries enable complex application development. As businesses increasingly rely on data and automation, Python skills are in high demand, offering significant career opportunities.

Python's extensive community ensures continuous improvement and support, making it ideal for cutting-edge technologies like machine learning and natural language processing. For economists and data analysts, Python's data manipulation and visualization capabilities are invaluable.

Day 1: Introduction to Python and Data Science

- Basics of Python programming, including syntax, loops, and functions.
- Overview of essential Python libraries like NumPy and pandas for data science tasks.

Day 2: Data Manipulation, Cleaning, and Visualization

- Importing data from CSV and Excel files into pandas DataFrames.
- Data cleaning techniques, including handling missing values and data transformation.
- Creating visualizations with matplotlib and seaborn to explore data trends.
- Applying descriptive statistics to summarize and interpret economic data.

Day 3: Web Scraping Basics

- Setting up Python for web scraping and understanding HTML/CSS structures.
- Making HTTP requests with Python and using BeautifulSoup to extract data from static web pages.

Day 4: Advanced Web Scraping Techniques

- Using Selenium to interact with and extract data from dynamic web pages.
- Best practices for storing and cleaning scraped data for further analysis.

Day 5: Introduction to NLP and Applications

- Techniques for cleaning and preprocessing text data.
- Basic text analytics, including sentiment analysis and topic modeling.
- Exploring real-world NLP applications in economics and future trends.

Applied Macroeconomic Policy Modeling: Solving Mixed Complementarity Problems (MCPs) with DynareJulia

May 19-23, 2025
15:00 - 17:00 Bangkok Time

Hybrid

This intensive course is designed to train economists and students in solving macroeconomic policy problems using Mixed Complementarity Problem (MCP) formulations. The training is grounded in practical policymaking needs, with a focus on the Endogenous Credibility (ENDOCRED) model featured in the forthcoming *Oxford Review of Economic Policy* article "Adapting Monetary Policy Frameworks for Risk Management" by Laxton, Igityan, and Mkhatrishvili (2024). Participants will learn how to use DynareJulia to implement nonlinear models with loss functions under occasionally binding constraints like the ELB, and how to apply these tools in real-time forecasting and policy scenario analysis.

The course highlights the growing demand from institutions, such as central banks and international financial institutions, for frameworks that can quantify risk and policy credibility. Mervyn King recently emphasized the need for models where credibility is endogenous, a central feature of this course.

T**he course length is 5 days (2 hours per day of live lectures + up to 2 hours per day of technical setup and assistance).**

Day 1: Introduction to FPAS Mark II and the ENDOCRED Model (Closed Economy)

- Motivation: Avoiding deflation traps and dark corners
- The role of monetary policy credibility in macro models
- Overview of the MCP formulation and policy loss functions
- How the Federal Reserve and other central banks use loss functions
- Installation and orientation to DynareJulia (2 hours technical help)

Day 2: Solving the Closed Economy ENDOCRED Model

- Building intuition: Inflation, output gap, and term premium
- Modeling the ELB as an occasionally binding constraint
- Hands-on exercises: generating scenarios with different initial conditions
- Benchmarking policy paths (Case A, Case B)
- Technical office hours (2 hours)

Day 3: U.S. Policy Design Case Study with Loss Functions

- Application of loss functions in real-time: The U.S. during 2021
- Case A: Persistent inflation and the risk of falling behind the curve
- Case B: Hard landing and risks of overtightening
- Case X: Policies of least regret under radical uncertainty
- Participant simulation exercises

Day 4: From Closed to Open Economy – Modeling FX Intervention Strategies

- Czech National Bank 2013 as a motivating case
- How to model exchange rate as a policy tool under the ELB
- Application to small open economies with dollarization
- How to structure credible FX interventions in MCP form

Day 5: Practical Forecasting and Scenario Development

- How to use ENDOCRED in macroeconomic projection exercises
- Framing market reference scenarios
- Constructing Case A/B/X paths with judgment
- Communication strategies using FPAS Mark II
- Wrap-up discussion on forthcoming *Oxford Review* article

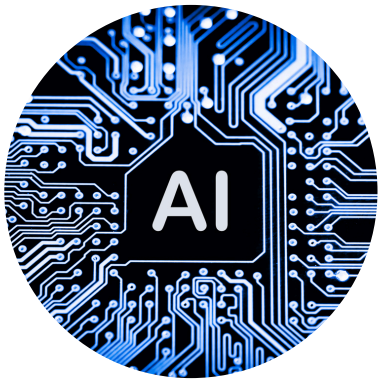
Registration

Free for students. Institutions will be charged a small fee to cover course administration and teaching costs. Recordings are available post-course. To access recordings or to set up one-on-one help installing DynareJulia, contact Asya Kostanyan at the Global Forecasting School.

AI in Economics and Finance

May 19-23, 2025
10:00 - 13:00 Bangkok Time

Hybrid



AI in Economics and Finance offers a practical introduction to how modern artificial intelligence tools can be used in real research and analytical work.
The course is designed for economists, analysts, and students interested in AI. It is based on practical experience — from applications in economics and finance to personalized assistants' deployment.

Day 1: Introduction to Artificial Intelligence

- What is Artificial Intelligence? Introduction to machine learning (ML), deep learning (DL), and neural networks.
- Applications in Economics and Finance: how AI is used for scoring, predictions, recommendations, and market modelling.

Day 2: Generative AI in Economic Research and Finance

- Generative AI in Economics and Finance: introduction to Large Language Models (LLMs) and their use in analysis and research.
- LLMs for research assistance: literature review, academic text and reports generation, LaTeX compilation, coding, model output visualization.

Day 3: Data Mining for Economic and Financial Analysis

- Introduction to data mining: overview of data mining as a process of extracting features from large and unstructured data sources.
- Web scrapping in Economics and Finance: extracting data from news websites, scientific journals and financial reports.
- AI agents for desktop automation: tools for handling routine analytical tasks with minimal user involvement.

Day 4: Introduction to RAG

- Limitations of Generative AI: reliability, outdated data, and lack of transparency.
- Introduction to Retrieval-Augmented Generation (RAG): applications for economic and financial research.

Day 5: Launching an AI startup with no funding

- Building an AI assistant: defining the use case, preparing data, generating responses using an LLM via API (OpenAI, Google).
- Startup examples and insights from building AI products in finance based on personal experience.

Registration

Free for students. Institutions will be charged a small fee to cover course administration and teaching costs. Recordings are available post-course. To access recordings or to set up one-on-one help installing DynareJulia, contact Asya Kostanyan at the Global Forecasting School.

Macroeconomic Modeling in DynareJulia

May 26 - 30, 2025
10:00 - 17:00 Bangkok Time

In Person

DynareJulia is a cutting-edge tool that represents the future of macroeconomic modeling. It is rapidly becoming essential for economists and analysts involved in economic modeling, policy analysis, and forecasting. The ongoing development of DynareJulia, led by Michel Juillard, ensures that the platform remains at the forefront of macroeconomic modeling, continuously integrating new tools and features.

DynareJulia enables users to handle complex models with greater efficiency, making it an invaluable tool for modern economic analysis and policy formulation. Mastering DynareJulia allows economists to leverage cutting-edge technology, improving the depth and reliability of their economic insights and analyses.

Day 1: Introduction to DynareJulia and Setup

- Overview of DynareJulia and its applications in macroeconomic modeling.
- Step-by-step guide to installing DynareJulia and setting up the environment.
- Running simple models in DynareJulia.

Day 2: Quarterly Projection Models in DynareJulia

- Introduction to Quarterly Projection Models (QPM) and their role in economic forecasting and policy analysis.
- Developing a QPM in DynareJulia with endogenous policy credibility.

Day 3: Structural DSGE Models in DynareJulia (Part 1)

- Overview of DSGE models and their significance in macroeconomic analysis.
- Building a Basic Structural DSGE Model
- Step-by-step guide to constructing a simple structural DSGE model in DynareJulia.
- Calibration and simulation of the model.

Day 4: Structural DSGE Models in DynareJulia (Part 2)

- Advanced Structural DSGE Modeling
- Incorporating more complex features into DSGE models, such as shocks and frictions.

Day 5: Bayesian Estimation Techniques in DynareJulia

- Overview of Bayesian methods and their application in macroeconomic modeling.
- Implementing Bayesian Estimation in DynareJulia

Key References

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- Greenspan, A. (2003). Monetary Policy under Uncertainty. Jackson Hole Symposium Speech.
- Bernanke, B. (2024). Forecasting for Monetary Policy Making and Communication: A Review. Bank of England.

More Information

https://www.thebetterpolicyproject.org
https://www.cba.am/EN/pmessagesannouncements/Transparency_Report_Q42024_Eng.pdf

Our Team and our Summer School 2024

The Better Policy Project

Great Things are Coming

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YouTube	www.youtube.com/@thebetterpolicyproject
X	www.twitter.com/PolicyBetter
LinkedIn	www.linkedin.com/company/the-beter-policy-project/