

## Summary:

The objectives that the research team will pursue during the next four years represent important macroeconomic challenges faced by our economies. These goals are organized in topics that are interrelated; this is the reason why it becomes important to address them jointly. They raise questions in which team members possess substantial experience, and lead to issues that represent a continuation of other research projects that obtained funding in previous calls, and that produced publications in high impact journals.

Given the general objective of understanding macroeconomic challenges, the project proposes, on the one hand, developing the necessary tools that can allow studying those challenges, and on the other, addressing directly the relevant questions posed by them.

More specifically, the project is organized in three parts. The first one deals with issues on economic growth. It wants to improve our understanding of the implications of natural resources, international trade, and biased technical change for the degree of fiscal decentralization, productivity growth, economic performance, and air pollution.

The second part is focused on the business cycle and income inequality. In particular, it wants to study the consequences of the underground economy, labour market regulation, multiproduct firms, asset prices, and households saving behaviour on the business cycle and wealth inequality.

Finally, the third part looks at developing and applying novel numerical methods to solve quantitative economic models that represent challenges to numerical methods.