The PhD is based on two contextual items:

(i) The observation of a monetary policy in the grip of notably macrofinancial uncertainties,

(ii) The news about the West African monetary union (CFA zone and ECOWAS) offering a field of application for rethinking the art of monetary policy.

To tackle this, modeling the evolution of the complex system of monetary transmission in a situation of uncertainty will be prioritized.

From this framework, the mathematical theory of viability will be privileged to broaden the prospects for modeling of the literature in monetary economics and to propose new options for monetary regulation.

This should result in a theoretical renewal of the action of central banks with a transversal scope as well as a practical guide contributing to specific debates on the overhaul or even the extension of the monetary zone coupled with the WAEMU.

Theoretically, this involves introducing a precautionary principle into monetary regulation to deal with uncertainties, including the financial ones. This precaution amounts to laying down `` viable '' monetary policy rules, insofar as they anticipate economic shocks that are related to uncertainties in order to avoid them in time, instead of setting reactive and late rules.

In doing so, a bottom-up approach that has little used in monetary theory will serve to define socially acceptable monetary policy objectives. In particular, the issue is to reconsider monetary policy in the West African zone by backing it to local fundamentals because it remains based on viewpoints that are adapted to the euro zone.

Methodologically, the challenge will be to apply a viability approach to monetary regulation. Traditionally models offer partial solutions for protection against uncertainty, most often equating uncertainty with only (stochastic) risks. However, the mathematical theory of viability captures the evolution of complex systems (here the system of monetary transmission), regardless of the stochastic features or not of the uncertainty. The issue is then to create a process for selecting the variables that essential to assess and guide the viability of monetary policy in a context of extended uncertainty.

Politically, the research will borrow an anticipative rationale based on feedback rules between the future and the present, instead of a forecasting perspective from the present towards the future. The issue is to establish a dashboard of monetary policy adjustment according to the state of the system behind monetary transmission.

If this is a PhD in economics, an interdisciplinary openness to exact sciences (mathematics and computer science) is required.