



The SYRTO Project

Mission, Objectives, and Tasks

SYRTO, “SYStemic Risk TOMography: Signals, Measurements, Transmission Channels, and Policy Interventions”, is a project funded by the European Union under the 7th Framework Programme over the period March 2013 – February 2016.

The project aims to create an early warning system to identify potential threats to financial stability and realize an ensemble of suggestions and prescriptions on the appropriate policy measures, governance structure and macro-prudential supervision to prevent, manage and resolve systemic crises in the Eurozone.

SYRTO is coordinated and managed by Professor **Roberto Savona**, Associate Professor of Financial Markets and Institutions at the University of Brescia, and involves the following universities (local coordinators in parenthesis):

- University of Brescia (**unit leader**);
- Centre National De La Recherche Scientifique (CNRS) and Paris I Panthéon-Sorbonne University (**Philippe de Peretti** and **Jorgen Vitting-Andersen**);
- Athens University of Economics and Business – Research Center (AUEB-RC) (**Petros Dellaportas**);
- University Ca’ Foscari Venice (**Monica Billio** and **Loriana Pelizzon**);
- University of Amsterdam Stichting VU-VUMC (**Andre Lucas** and **Siem Jan Koopman**).

The research team, for which the scientific coordination is provided by Professor Roberto Savona together with Professor **Monica Billio** from the University Ca’ Foscari Venice will also be supported by an Advisory Board composed of one *Scientific Division*, which includes prominent scholars from



academia such as the **Nobel laureate in economics Professor Robert Engle** from the Stern Business School of the New York University, and one *Policy Division* composed by staff members of the European Central Bank, European Commission, International Monetary Fund, and other international organizations (BIS, EBA, OECD), collaborating with SYRTO as advisors participating in their private capacity.

During the second half of 2011 sovereign and banking risks increased in the Eurozone in an environment of weakening macroeconomic growth prospects. Contagion effects have been accelerated by the interplay between vulnerability of public finances and financial sector and have become substantial. Furthermore, bank funding pressures increased markedly and feed the fear of the Euro crash. In this economic context the major aim of the project is to develop formal measures of system-wide risk, in order to capture the linkages and vulnerabilities of the financial system, and regulate the overall level of risk of the system.

In more depth, SYRTO explores the relationships between Sovereigns – Banks and other Financial Intermediaries (BFIs) – Corporations of the European Union with the following objectives:

- Identify the common (fundamental) and the sector-specific (idiosyncratic) risks, and assemble a web-based **Early Warnings System** (EWS) to be used: (i) as *risk barometer* for each sector and countries alike, in order to identify potential threats to financial stability; (ii) as a system of *rules of thumb* by monitoring a series of leading indicators so as to minimise the possible negative impacts from systemic crises, preventing contagion effects also including the appropriate mechanisms to restore systemic crisis problems. The EWS will realize Risk Reports for individual Sovereigns, BFIs and Corporations on the “4 R’s”: (1) *Rating*, specifying the membership risk category and corresponding risk value; (2) *Risk Anomalies*, i.e. the risk indicators which appear as excessively risky; (3) *Risk Assessment*, namely the sensitivity towards systemic risk; (4) *Risk Impacts*, quantifying the potential risk severity. The realization of the EWS will be carried out together with a “**Data Center**”, by implementing a sound data-management infrastructure for systemic-risk monitoring and controlling for data merging, missing data, and data quality issues.



- Explore monetary policy and macro-prudential issues relative to systemic risk developing a “**SYRTO Code**” in order to detect a series of recommendations, also expressed in terms of EWS prescriptions, on (i) the appropriate governance structures for EU to prevent and minimise systemic risks; (ii) the best mechanisms for ensuring an effective interplay between, and coordination of, macro and micro-prudential responsibilities.

At the end of the project, the group aims to realize a research center in order to give a formal structure to the mission, objectives and results of the SYRTO project. This center will use the methodologies developed by the team to produce indicators about the state of the markets, corporates, banks and financial intermediaries, and sovereigns, both through the publication of periodic reports, and through risk indicators.

Of particular interest is the collaboration with the staff members from the European Central Bank coordinated by Carsten Detken, Head of the Financial Stability Surveillance Division at the Directorate General Financial Stability. Indeed, in Spring 2010 the European System of Central Banks launched the research network MaRs (Macro-prudential Research Network). The ECB Staff will be well placed to advise on synergies between the SYRTO project and MaRs, in particular in order to align the research with direct policy needs.