

JRC's structure

The JRC's headquarters are in Brussels, in close proximity to many of its most important stakeholders. These include the policy-making Directorates-General of the European Commission and other institutions, in particular, the European Parliament.

Most of the JRC's scientific work is carried out in the JRC's Institutes located on specialist sites in five countries, with the main site located in Ispra, Italy.

Facts & figures about the JRC

- Established 1957
- 2 828 scientific and technical personnel
- 7 scientific institutes
- 1 356 publications in 2011.

JRC – The European Commission's in-house science service



As the European Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.

Key policy areas include: environment and climate change; energy and transport; agriculture and food security; health and consumer protection; information society and digital agenda; safety and security, including nuclear; all supported through a cross-cutting and multidisciplinary approach.

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Serving society
Stimulating innovation
Supporting legislation

Scientific support for financial stability



Since the beginning of the financial crisis the European Commission has made several propositions to help tackle two pressing challenges: the need to simultaneously restore financial stability and boost economic growth. The European Commission's in-house science service, the Joint Research Centre (JRC), develops scientific models and methods to assist the Commission and EU member states in taking informed policy decisions in these fields.

The JRC exploits its scientific competences in econometrics and statistics to assess the efficiency and effectiveness of new and existing Commission proposals for prudential regulation of banks and insurances, hence contributing to the work of the Commission for a more resilient financial sector. The JRC uses advanced technologies and develops computational tools and models for the assessment of the EU's economic situation and for monitoring fiscal imbalances in the application of the Stability and Growth Pact.

Banking and insurance regulation

The JRC's expertise and scientific tools contribute to the assessment of systemic risk and to the development of quantitative analyses necessary for the preparation of the ex-ante impact assessments of Commission proposals on prudential regulation in the financial sector.

In this activity the JRC uses its scientific methods and tools to analyse the consistency of the proposals, to maximise their effectiveness, and to perform a cost-benefit analysis. This is essential to strike a balance between a banking system which is 'safe' – thereby not imposing risk on tax payers and the economy – and a banking system not overloaded by excessive costs that may result in a credit crunch.

The JRC has contributed, for instance, to the work developed by the Commission for the introduction of higher capital requirements for banks, the introduction of harmonised deposit protection schemes and the establishment of an EU Framework for Bank Recovery and Resolution.

The JRC could support the Commission in the steps towards the establishment of a European Banking Union by dedicating research to the design of a single resolution mechanism and assessing which tools are most effective to stop contagion. Moreover, the JRC could provide robust scientific methods to quantify individual banks contributions to systemic risk, in support of efficient and effective supervision.

The main tool used to assess the impact of Commission legislative proposals is SYMBOL (Systemic Model of Banking Originated Losses), a model developed by the JRC in cooperation with the Commission's Directorate-General for Internal Market and Services and partners from academia.



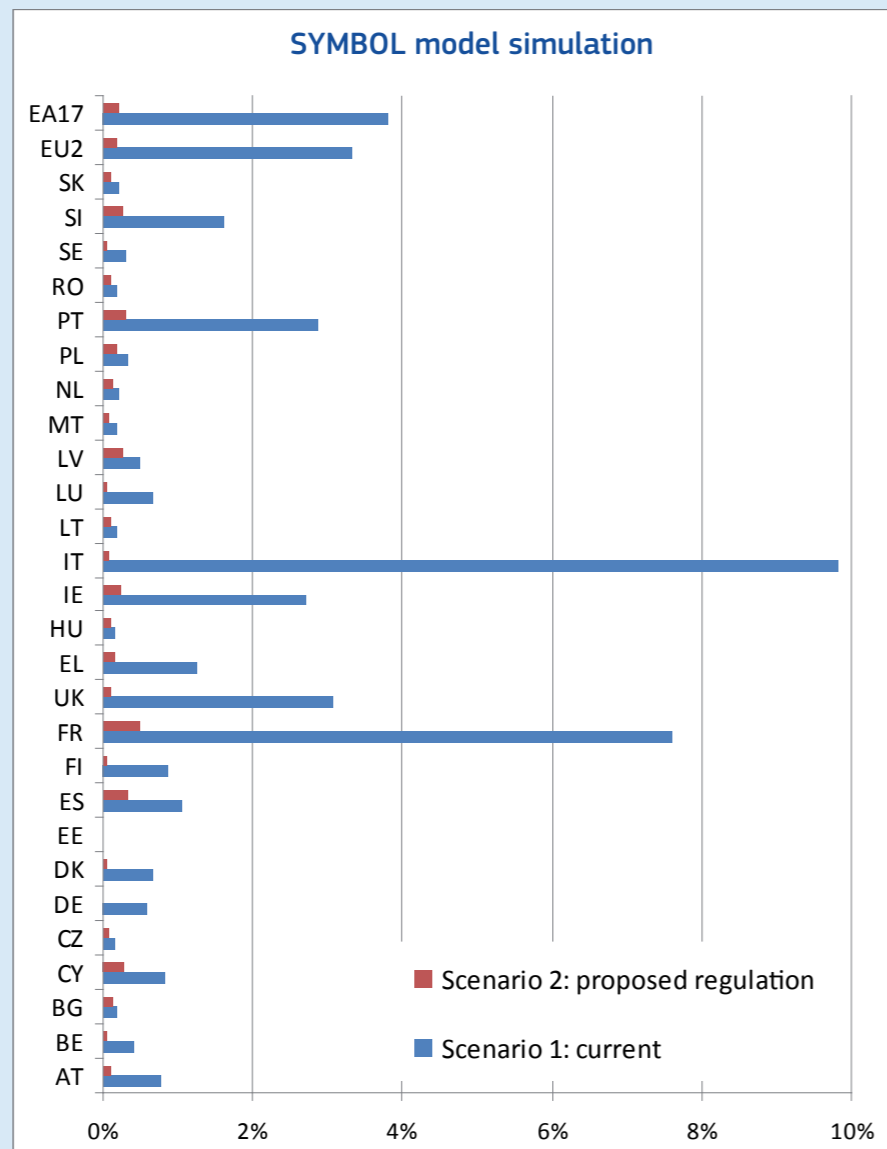
SYMBOL – Systemic Model of Banking Originated Losses

SYMBOL is a statistical model which assesses the consequences of bank failures in EU countries. It examines how different factors, such as higher capital requirements or the introduction of resolution funds, affect the probability and magnitude of economic losses and liquidity shortfalls due to bank defaults. It can be used to investigate which combinations of regulatory changes are most effective in enhancing financial stability. The SYMBOL model has become a reference tool that allows assessing the impact of legislative initiatives of the Commission for stronger economic governance, including prudential regulation both at micro and macro level.

SYMBOL contributed to various Commission initiatives such as: the Commission proposal for Capital Requirement Directive (CRD IV) and the investigation of the introduction of a Tax on Financial Activities in 2011, as well as the proposal for the introduction of an EU Framework for Bank Recovery and Resolution in 2012.

When using SYMBOL to assess the impact of the CRD IV capital requirements in a number of EU countries, the JRC found that the new rules would reduce the risk of a systemic banking crisis by at least 29% and up to 90% for some EU countries, with an average of about 57% among the analysed countries.

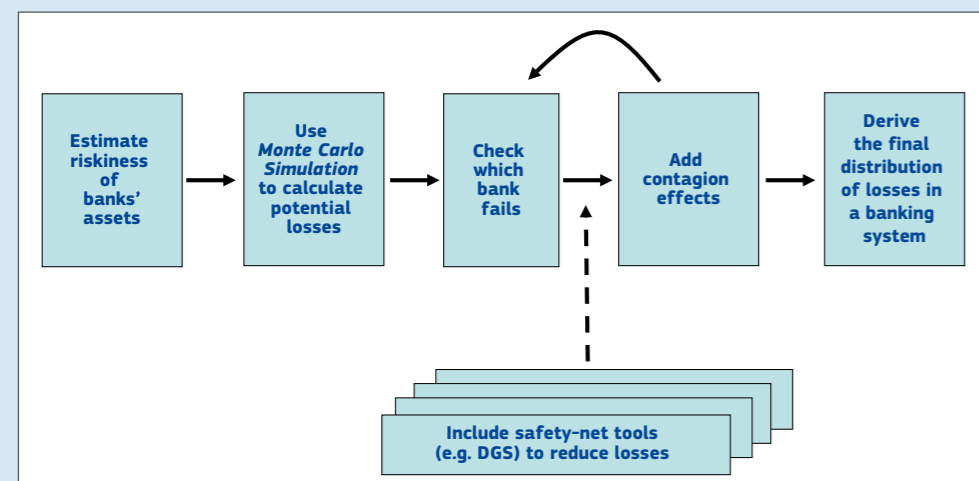
The JRC also used SYMBOL to support the Commission's evaluation of different



An example of a SYMBOL model output: probability that losses higher than 0.1% of the GDP, generated by banks' default, will hit public finances in various EU member states under two alternative regulatory scenarios.

options to tax the financial sector, such as a tax on high-risk banking activities and a tax on financial transactions of banks, to see which options were more

aligned to the risk profile of banks and thus provide best incentive for banks to mitigate risks.



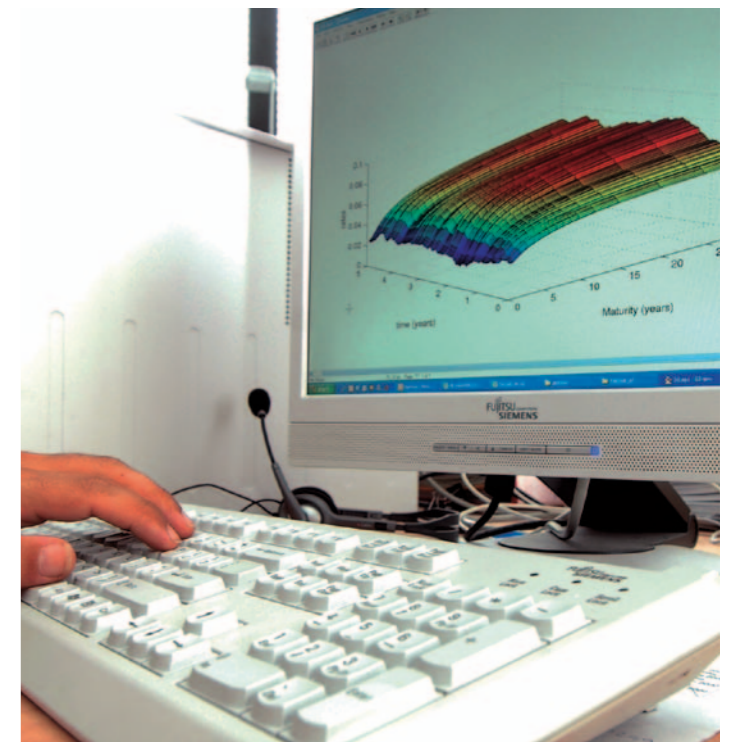
Steps of the SYMBOL model. DGS = Deposit Guarantee Schemes.



Macroeconomic analysis for the monitoring of the EU's economic situation

The JRC supports the Commission's Directorate-General for Economic and Financial Affairs in the development, estimation and simulation of QUEST III, the global macro-economic model used by the Commission to analyse the status of the EU economy. QUEST III is one of the analytic instruments the Commission uses to monitor the EU 2020 objectives and the impact of the flagships initiatives. In particular, it assists the integrated surveillance of member countries' economic situation, including their fiscal policy, budget imbalances, reform programmes, and overall sustainability of public finances.

QUEST III belongs to the class of dynamic stochastic general equilibrium models now widely used by international institutions and central banks. QUEST III has been estimated on the euro area, EU member states and US data using Bayesian methods. The QUEST III results are then used, for example, to analyse imbalances and rebalancing scenarios for euro area member countries and to study the interaction between fiscal policy and the banking system. Moreover, they help understand the mechanisms driving the economic cycle, as well as the impact of fiscal policies in the context of the current crisis.



JRC tools help protect bank deposits of European citizens.



Monitoring fiscal imbalances in application of the Growth and Stability Pact

The Stability and Growth Pact (SGP) is a rule-based framework for the coordination of national fiscal policies in the Economic and Monetary Union (EMU). It was established to safeguard sound public finances, an important requirement for the EMU to function properly. Supporting this work, the JRC has developed and maintains the estimation platform GAP, which is currently used by the Commission to calculate output gap and potential growth – two key elements for assessing the budget position of EU member states and monitoring their adherence to the SGP.

This information has been used by policy makers for their ongoing discussions regarding the appropriate mix of macroeconomic and structural policies in the various EU economies.

Resources: <http://ipsc.jrc.ec.europa.eu/?id=580>