



How severe are the EBA macroeconomic scenarios for the Italian Economy?
A joint probability approach

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Views expressed are my own and need not reflect those of the Icelandic FSA.

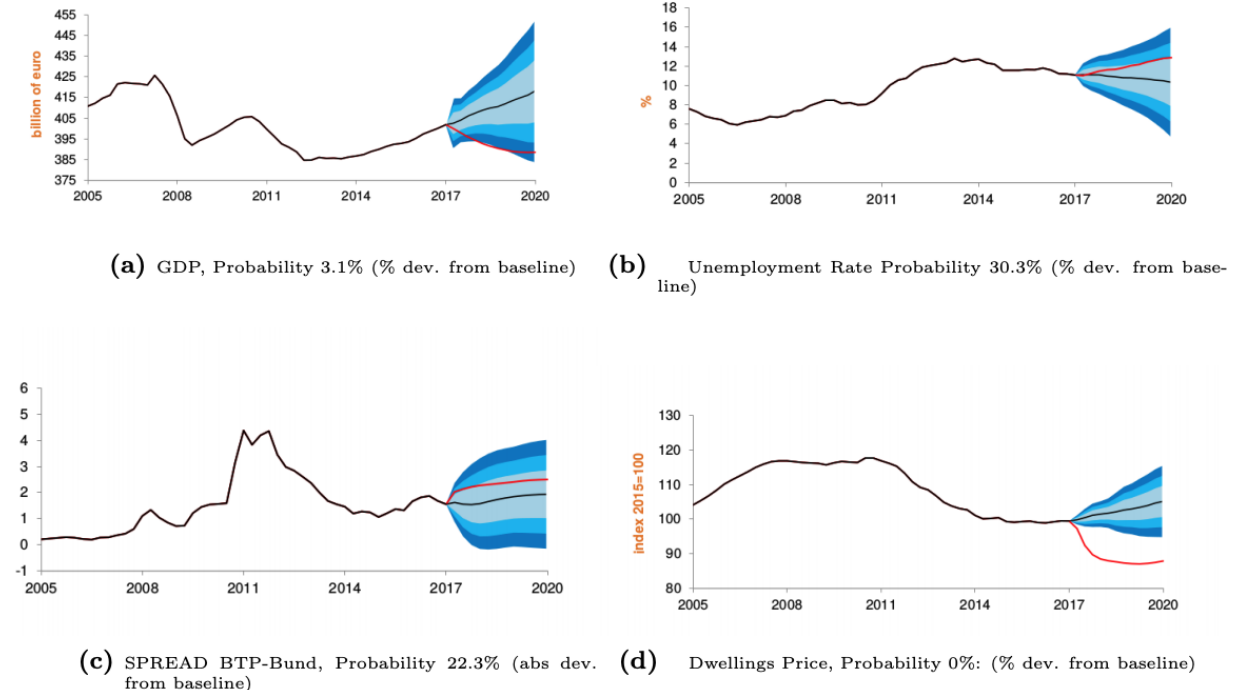
Assigning probabilities to scenarios

- The paper outlines a method to assign a probability of observing the realization of an economic scenario that has many variables.
- The result from standard econometric methods would tend to zero as the number of variables and periods increase.
- By making use of a structural economic model the probabilities for each variable and period are dependent, giving the possibility of a non-zero result.
- The authors use this methodology to compare the 2016 and 2018 EBA scenarios and find that the 2016 scenario is more severe.
 - 2016 scenario has a 0.15% probability of materializing
 - 2018 scenario has a 0.50% probability of materializing

Detecting implausible variable paths

- Univariate analysis shows that the development of house prices are extremely unlikely in both scenarios.
- The paper lists the overall probabilities for the scenarios based on a subset of the variables.
 - If house prices are added to the subset, the overall probability drops.
- The methodology could be better formalized with respect to this.
 - Is it enough that the scenarios are compared on a consistent basis?

Figure 2: EBA 2018 endogenous variables



Source: Prometeia calculations on EBA data

Reverse stress testing

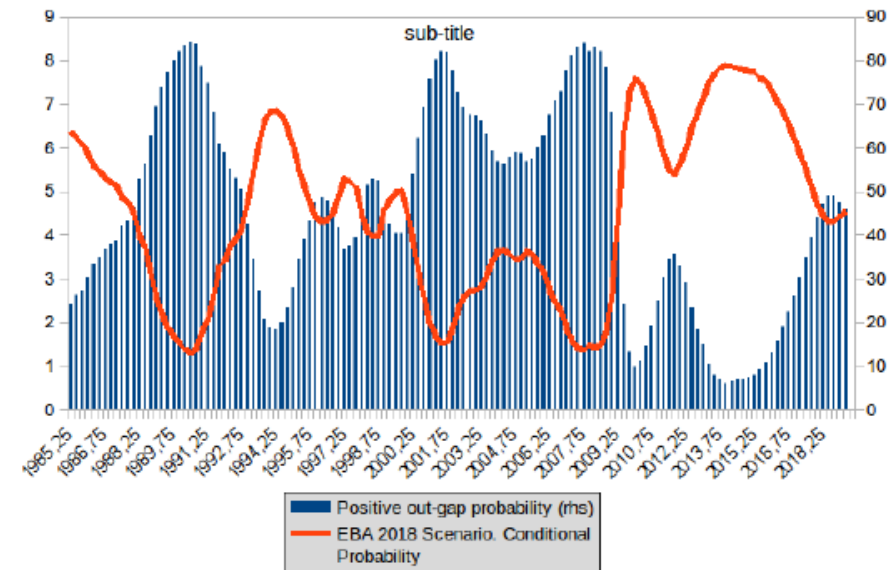
- The system of equations that is central to the methodology can be solved for the expected path of exogenous variables for a given profile of the endogenous variables.
- This attribute can be used to find an economically consistent path for the exogenous variables that supports a given stress severity.
- The authors fit the endogenous variables from the 2018 scenario to the model and generate a shock profile for the exogenous variables which includes a more severe shock to oil prices, a persistently high BTB-Bund spread but a less severe housing shock.
- The paper left me confused about the treatment of the housing variable as it is an endogenous variable.



Conditioning scenario probabilities to the business cycle phase

- The authors argue that the probability distribution should take into account the current phase of the business cycle.
 - They use the output gap as a measure of the business cycle.
- The paper finds that adverse scenarios are more likely when the output gap is negative.
- It seems counterintuitive that the probability of a crisis is greater at the bottom of a crisis that after a long period of prosperity.
- Weaker stress test scenarios at the height of the business cycle could also be procyclical.

Figure 9: 2018 EBA Scenario, conditional probabilities over time



Source: Prometeia calculations

