

# Master Thesis Proposal

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## Proposed Topic:

Stress Testing of the Banking Sector in Emerging Markets: A Case of the Selected Balkan Countries

## Topic Characteristics:

Nowadays, financial stability of the banking sectors is a highly discussed topic. Especially, the assessment of the appropriate amount of capital that banks should put aside to guard against various types of risks that banks face represents a great challenge. One of the techniques that help to bring the answer to the question whether a particular bank or a banking sector have sufficient capital buffer in the case of a crisis is the stress testing.

A stress testing is a risk management tool that shows the bank's or the banking sector's financial performance under downside scenarios which are severe but still plausible. By comparing the results under these scenarios with the baseline (most likely future scenario) results and with minimum capital requirements, the banks' management and national supervisors can specify additional capital to be set aside.

In July 2010, the results of the EU-wide stress testing exercise were released. The results showed the overall EU banking sector as a resilient to particular shocks. In the light of the proceeding preparations for the EU enlargement to the Balkans this thesis focuses on vulnerabilities of four banking sectors in Bosnia and Herzegovina, Croatia, Macedonia and Serbia. The author is going to assess banking systems' performance using stress testing framework under the two scenarios: the baseline and the adverse scenario, which will be specified for each country in a conservative manner. The outcome should demonstrate whether these countries are able to withstand an economic deterioration.

## Hypotheses:

1. Hypothesis #1: The stress testing methodology for the Balkan countries based on publicly available data can be build up.
2. Hypothesis #2: Some banks show insufficient capital adequacy under the baseline scenario.
3. Hypothesis #3: Some banks show insufficient capital adequacy under the adverse scenario.
4. Hypothesis #4: The stress testing exercise can reveal different risks to financial stability across examined countries.

## Methodology:

A top-down stress testing approach will be applied. Each banking sector will be tested separately and will be roughly represented by 10 major banks (in the sense of the amount of assets compared to the total sector's assets) that operate in the country - independently of whether they are state-owned, domestic or foreign banks and that represent at least 50% of the total sector's assets.

The baseline scenario will be either based on the Consensus Forecast and the IMF World Economic Outlook or simple VAR model will be employed. The adverse scenario will be rather expert based using as well historic volatility for calibration. In particular, many parameters will be determined by expert judgement according to the unstable situations in 90's and at the beginning of the 21st century. The key macroeconomic indicators as GDP, interest rate, exchange rate etc. will be considered. One year forecast horizon will be used for both scenarios.

The regression analysis using historical data from the World Bank Database and the National Banks' databases will be used to link macroeconomic variables to micro-prudential indicators. Finally, the corresponding capital buffer will be calculated using the banking balance sheets data.

The comparison of the calculated capital adequacy for each bank and banking sector with the existing capital requirements will be made and possible threats for financial stability will be discussed. We will further focus on the key source of risk for these countries and discuss possible policy implications.

## Outline:

1. Introduction
2. Related literature
3. Theoretical background
  - 3.1. General stress testing framework
  - 3.2. Stress testing methodology applied for Balkan countries
4. Empirical analyses for Balkans countries
  - 4.1. Macroeconomic situation and scenario analysis
  - 4.2. Application of stress testing methodology for selected countries
  - 4.3. Discussion of results and policy implications
5. Conclusion

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