Pitcher’s Name: Bao Hoang Nguyen (UQ Winter Scholar)

FoR category: Interest Rate Risk

Date Completed: 04/07/2016

(A) Working Title

(B) Basic Research Question
What is the impact of interest rate risk (both short-term and long-term) and exchange rate risk on European financial stock returns? How does the sensitivity to these risk factors change across increasing time horizons and across pre/post-euro period?

(C) Key paper(s)

(D) Motivation/Puzzle
Over the past three decades, European financial market has experienced dramatic changes aiming at the integration of the market. It was characterized by the creation of European Single Market in 1992 and the introduction of a single currency (the euro) in Jan 1999. Prior to the introduction of the euro, the regulatory policies which supported forming a single market had made some progress in financial integration, but some resistance to integration is still apparent, especially in retail banking market. Therefore, the puzzle of whether the adoption of the single currency will improve financial market integration and thus affect the risk exposure of the financial sector is the motivation of this study.

(E) Idea?
The sensitivity of European financial stock returns to interest rate risk and exchange rate risk is investigated under comparative analysis framework across three broad groups (Banking, Financial services and Insurance) for key representative countries which are categorized into euro and non-euro zone groups. The sample is divided into two sub-periods (pre- and post-euro) to examine impacts of the euro introduction on risk exposures. The short-run and long-run effects of the risk factors are also analysed by lengthening time horizons of the baseline model.

Tension: Short-term interest rate vs long-term interest rate, yield vs holding period return, actual change vs unanticipated change.

(F) Data?
Country: Nine European countries (five euro-zone countries: Germany, France, Italy, the Netherlands and Spain; four non-euro zone countries: the UK, Switzerland, Denmark and Sweden)
Unit of Analysis: Financial sector portfolios (Banks, Financial Services and Insurance)
Sample interval: Monthly
Sample period: From April 1991 to June 2004
Data type: Industry-level and Macro-level. Time-series data
Data Issues:
- Data for Insurance sector of Sweden ends in April 1999.
- Exchange rate analysis is not undertaken for Denmark since it has a fixed exchange rate.
- All yields need to be converted into holding period returns.

(G) Tools?
Baseline model: Return on financial sector portfolio = f(return on market index, return on interest rate factor, return on exchange rate factor)
Using OLS to estimate baseline model
Using Newey-West HAC approach to estimate the lengthening time horizons of baseline model

(H) What’s New?
To the best of my knowledge, it is the first study in which various facets (maturity, time horizon, types of financial institution and the introduction of euro) are simultaneously taken into account to explore risk exposure of the European financial sector.

(i) So What?
The finding of this study has implications for both private agents and regulators/policy makers. From risk management perspective, it helps investors/managers gain a better understanding about the fluctuation in profitability of financial sector institutions.
and shareholder returns under the impacts of risk factors by adopting a multidimensional approach. From policy perspective, this study provides empirical evidence for policy makers to compare risk sensitive of different market segments before and after adopting a single currency, so that they can evaluate degree of financial integration and identify areas where further improvement are needed.

**ONE bottom line**

(J) **Contribution?**

This study contributes to risk management literature by taking a more comprehensive research design to assess risk sensitive of financial sectors in European countries (non-eurozone vs euro-zone, pre-euro vs post-euro, short-term interest rate vs long-term interest rate, short-run effects vs long-run effects).

(K) **Three Key Findings**

1. Banks are more sensitive to short-term interest rates, while Financial services and Insurance sectors are more sensitive to long-term interest rates.
2. Interest rate sensitivity does not change across pre-/post-euro periods and countries, but increases significantly with increasing time intervals.
3. Exchange rate exposure is weak across all countries and sectors.

**Mickey Mouse Diagram:**

- Financial stock returns
- The Euro introduction
- Risk factors (Interest rate risk and Exchange rate risk)