Determinants of the Net Interest Margin in the Banking Institutions: Contribution of PLS Regression Compared to the Principal Components Regression

Benammou Salwa[1] and Mlayeh Chahrazed[2]

[1]Department of Quantitative Methods, University of Law, Economic and Political Sciences, Erriadh City 4023 Sousse, Tunisia. E-mail: **salwa.benammou@voila.fr**

[2]Department of Quantitative Methods, Higher Institute of Management, Abed Aziz El Bahi Street, BP 763 4000 Sousse, Tunisia. E-mail: **Chahrazed.Mlayeh@isffs.rnu.tn**

Corresponding author: Mahjoubi Dalenda. E-mail address: dalendaisg@yahoo.fr. Address: 14, Rue Abdallah Ibn Raouha. Cité Erriadh. 4023. Sousse. Tunisie. Tel: +21673301165

Abstract: Partial Least Squares regression and Principal Components Regression make possible to relate a set of dependant variables Y to a set of independent variables X, when there is multicollinearity. This paper suggests a new approach for analyzing the net interest margin. After using the PCR method, the determinants of the net interest margin have been viewed through a PLS model.

Keywords: Partial Least Squares Regression, Principal Components Regression, net interest margin.

INTRODUCTION

The exhaustive development requires a deep survey on the set of events that can generate unfavorable variations and that have a negative effect on the national economy. The banking institutions represent an important market that has an efficient role in the development and the creation of a new economic politics. We identify the various risks to which the banking system is exposed. If they are badly managed, these risks can affect the bank's objective and can lead to unfavorable situations. We carry out a statistical and econometric study to identify which principal risks that have an effect on the banking profit and reflect the reality economic of this market.

This research points out the determinants of the net interest margin in the Tunisian banking structure. The article is divided into two sections. In the first part we introduce some tools Partial Least Squares regression (PLS) and the Principal Components Regression (PCR) and we justify the choice of the PLS