

Mona Maghraby



# بسم الله الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني



Mona Maghraby



# جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
على هذه الأقراص المدمجة قد أعدت دون أية تغييرات



**ANALYSIS OF THE IMPACT OF FARMERS  
DECISIONS UNDER RISK ON THE MAIN  
AGRICULTURAL CROPS  
IN EGYPT**

**By**

**YASMINE ABD EL NASSER ABD ALLAH**  
B. Sc. Agric. Sci., (Agricultural Economics), Fac. Agric., Cairo Univ., 2013

**THESIS**

**Submitted in Partial fulfillment of the  
Requirements for the Degree of**

**MASTER OF SCIENCE**

**In**

**Agricultural Sciences  
(Agricultural Economics)  
Department of Agricultural Economics  
Faculty of Agriculture  
Cairo University  
EGYPT**

**2019**

**Format Reviewer**

**Vice Dean of Graduate Studies**



**APPROVAL SHEET**  
**ANALYSIS OF THE IMPACT OF FARMERS**  
**DECISIONS UNDER RISK ON THE MAIN**  
**AGRICULTURAL CROPS**  
**IN EGYPT**

**M.Sc. Thesis**  
**In**  
**Agric. Sci. (Agricultural Economics)**

**By**

**YASMINE ABD EL NASSER ABD ALLAH**  
**B. Sc. Agric. Sci., (Agricultural Economics), Fac. Agric., Cairo Univ., 2013**

**APPROVAL COMMITTEE**

**Dr. MOHAMED HAMDY SALEM**.....  
**Professor of Agricultural Economics, Fac. Agric., Ain Shams University**

**Dr. GAMAL MOHAMED SIAM**.....  
**Professor of Agricultural Economics, Fac. Agric., Cairo University**

**Dr. ALI ASSEM ZAKI FOAUD**.....  
**Professor of Agricultural Economics, Fac. Agric., Cairo University**

**Dr. SAAD ZAKI NASSAR**.....  
**Professor of Agricultural Economics, Fac. Agric., Cairo University**

**Date: 19 / 5 /2019**



**SUPERVISION COMMITTEE**

**ANALYSIS OF THE IMPACT OF FARMERS  
DECISIONS UNDER RISK ON THE MAIN  
AGRICULTURAL CROPS  
IN EGYPT**

**M.Sc. Thesis  
In  
Agric. Sci. (Agricultural Economics)**

**By**

**YASMINE ABD EL NASSER ABD ALLAH**  
**B. Sc. Agric. Sci., (Agricultural Economics), Fac. Agric., Cairo Univ., 2013**

**SUPERVISION COMMITTEE**

**Dr. SAAD ZAKI NASSAR**  
**Professor of Agricultural Economics, Fac. Agric., Cairo University**

**Dr. ALI ASSEM ZAKI FOAUD**  
**Professor of Agricultural Economics, Fac. Agric., Cairo University**





**Name of Candidate:** Yasmine Abd El Nasser Abd Allah      **Degree:** M.Sc.

**Title of Thesis:** Analysis of the impact of farmers decisions under risk  
on the main Agricultural crops in Egypt.

**Supervisors:** Dr. Saad Zaki Nassar  
Dr. Ali Assem Zaki Foad

**Department:** Agricultural Economics

**Approval:** 19/5/2019

### **ABSTRACT**

Owing to the variable economic and biophysical environment the agricultural sector is prone to several risks and the most common sources of risk in farming can be classified into two main categories first: Business Risk which is the aggregate effect of the production, market (price), institutional and personal (Human) risk and second one is Financial Risk. These types of risk affect both producers and consumers and influence the farmer's production decision toward cultivating particular crop.

Price volatility has increased, with sharp swings in product and input prices, Markets have been affected by macro -economic disturbances, agricultural policies become more decoupled from production and prices, farmers are now more exposed to market forces than in the past. Based on the above conceptual fact, the study focuses on the role of price risk in shaping farmers' supply-response decisions.

The results indicate that producers are more responsive to price factor than non-price factors. It is therefore imperative to reduce price risk as to increase the response of producer to supply by stabilizing the price incentive.

Consequently, it is required that the government and the agricultural policies makers stabilizing the price incentive ,this approach will allow the government to achieve stability in production and self – sufficiency ,as well as maintain stable income to the farmers and face the current challenges regarding the price risk volatility.

**Key Words:** Risk, Supply-Response, Production decision, stabilizing price incentive.



## **DEDICATION**

*I dedicate this work to my parents, brother and my husband for all the support they lovely offered during my post-graduate studies.*

.



## **ACKNOWLEDGEMENT**

*I wish to express my sincere thanks, deepest gratitude and appreciation to **Dr. Saad Zaki Nasser** and **Dr. Ali Assem Fouad**, professors of agricultural economics ,faculty of agriculture, Cairo university, for suggesting the problem, supervision, continued assistance and guidance through the course of my study and for the revision of the manuscript of this thesis.*

*Special deep appreciation is given to my father, my mother, my son Mu'tasim, my husband and my brother*

*Grateful appreciation is also extended to all staff members of the Agricultural economics, Faculty of agriculture, Cairo University.*

*Last but not least my deep gratitude to each and every colleague or friend who gave me a helping hand to accomplish my study. Million thanks are not enough.*



# CONTENTS

|                                                                        |           |
|------------------------------------------------------------------------|-----------|
| <b>INTRODUCTION.....</b>                                               | <b>1</b>  |
| <b>Chapter 1: Theoretical framework and literature review.....</b>     | <b>9</b>  |
| <b>1. Theoretical framework.....</b>                                   | <b>9</b>  |
| a. Risk.....                                                           | 10        |
| b. Uncertainty.....                                                    | 11        |
| c. Farmers' attitude toward risk.....                                  | 12        |
| d. Risk management strategies and mechanisms.....                      | 14        |
| e. Decision making process.....                                        | 25        |
| <b>2. Literature review.....</b>                                       | <b>28</b> |
| a. First: Previous studies and research of risk.....                   | 28        |
| b. Second: review of relevant studies on supply response               | 47        |
| <b>3. Conclusion.....</b>                                              | <b>54</b> |
| <b>Chapter 2: Current situation of crops under study in Egypt.....</b> | <b>55</b> |
| <b>1. Crop selection Criteria.....</b>                                 | <b>55</b> |
| a. Crop rotation.....                                                  | 55        |
| b. Marketability and profitability.....                                | 56        |
| c. Cultivated area.....                                                | 56        |
| d. Export crop.....                                                    | 56        |
| e. Strategic crop.....                                                 | 56        |
| f. Processing crop.....                                                | 56        |
| g. Locally consumed crop.....                                          | 56        |
| <b>2. Production indicators.....</b>                                   | <b>58</b> |
| a. Wheat crop.....                                                     | 58        |
| b. Maize crop.....                                                     | 62        |
| c. Onion.....                                                          | 65        |
| d. Broad bean.....                                                     | 68        |
| e. Sugar beet.....                                                     | 72        |
| f. Soybean.....                                                        | 76        |
| g. Nili Tomato.....                                                    | 79        |
| h. Nili potatoes.....                                                  | 82        |
| i. Cotton.....                                                         | 86        |
| <b>3. Economic indicators.....</b>                                     | <b>90</b> |
| a. Wheat.....                                                          | 90        |
| b. Maize.....                                                          | 99        |