Applied Mathematics

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

ASSET BUBBLE DETECTION USING THE FLOREN-ZMIROU ESTIMATOR

A thesis submitted in partial fulfillment of the requirements
For the degree of Master of Science in
Applied Mathematics

by

Jaspreet Kaur

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The thesis of Jaspreet Kaur is approved:

Dr. Stephen Breen	Date
Dr. Vladislav Panferov	Date
Dr. Jorge Balbás, Chair	Date

California State University, Northridge

Dedication

Jas' dedication

Acknowledgements

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ABSTRACT

ASSET BUBBLE DETECTION USING THE FLOREN-ZMIROU ESTIMATOR

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We will study non parametric estimator Floren Zmirou in local real time on compact domain with stochastic differential equation which has unknown drift and diffusion coeificents. Once we will have volatility from floren zmirou. We will obtain volatility funtion then we will interpolate with cubic spline to see the behavior of the function.

Chapter 1

Introduction

1.1 Previous Work on Asset Bubble Detection

Chapter 2

Background on Asset Bubble Detection Using the Floren-Zmirou Estimator

2.1 Background of Portfolio Theory

2.2 Mathematical Background of Portfolio Theory

Chapter 3

Implementation of Asset Bubble Detection Using the Floren-Zmirou Estimator

Chapter 4

Examples of Asset Bubble Detection

Chapter 5

Future Work on Asset Bubble Detection and Conclusion

5.1 Future Work

5.2 Conclusion

References

[1] Philip Protter Robert A. Jarrow, Younes Kchia. How to detect an asset bubble. *Journal of Computing*, 2011.