An Empirical Analysis of School Choice under Uncertainty*

Kehinde Ajayi †        Modibo Sidibe ‡

September 7, 2015

Abstract

This paper develops a framework for quantifying student welfare in school choice problems with uncertain admission chances. Our approach, based on optimal portfolio theory, is not subject to the curse of dimensionality and allows us to recover individual preferences along with policy-invariant primitives that generate student choices. We use counterfactual simulations to analyze the relationship between the number of choices and welfare. An application using administrative data from Ghana finds that total welfare is a concave function of the number of choices permitted – expanding the number of choices from 1 to 2 more than doubles total welfare and reduces the number of unassigned students by 61%. Allowing students to submit an unrestricted number of choices generates five times as much total welfare as allowing for a single choice.

Keywords: Optimal portfolio, school choice, uncertainty.

JEL Classification: C53, D61, I20

*We thank Attila Ambrus, Peter Arcidiacono, Pat Bayer, Allan Collard-Wexler, and participants at many seminars and conferences for their helpful comments and discussions. Ajayi gratefully acknowledges the generosity of Duke University where a large part of this paper was completed. Data and background information were kindly provided by the Computerized School Selection and Placement System Secretariat, Ghana Education Service, and SISCO Ghana.

†Boston University; kajayi@bu.edu

‡Duke University and CREST; modibo.sidibe@duke.edu