Safer Foods – “One Less Thing to Worry About” —Experiences from Food Safety Performance in the U.K.

Student: Wenjing Shang1 Advisor: Neal H. Hooker2

Presented at the OARDC annual conference, Wooster, OH, April 20, 2006

ABSTRACT
Foodborne infections are a major cause of illness and death worldwide. Regulations take time and money to implement and may not always have a significant impact on public health. To date, the U.S. has used a voluntary recall system. This is a contrast to the U.K., which relies on a HACCP-based system. In 1995, the United Kingdom implemented a voluntary recall system. Later, in 2002, the Meat (HACCP) Regulations were enacted, which required all meat and poultry plants to implement HACCP by June 7, 2002 for large plants and June 7, 2003 for small plants.

WHAT IS HACCP?
HACCP is an internationally recognized and recommended system of food safety management. It focuses on identifying the potential points in a process where food safety problems can occur and then establishing preventive controls to avoid or remove these hazards.

PRELIMINARY ANALYSIS OF HAS
Has scores are available for the years 1998 to 2005. The number of inspected plants had been declining over the period, from 1998 to 2005. The number of plants sampled for each year was 4000. The average Has score for large plants and small plants was 81.8 and 78.4, respectively. The difference in Has scores for large and small plants was statistically significant. There was a difference in Has scores between the regions of the U.K., with the highest average Has score in Scotland and the lowest in England. This is consistent with expectations, as Scotland is known for its high standard of food safety. Overall, the Has scores are significantly different between regions.

NONPARAMETRIC TESTS
After considering tests of Has scores across years, it is interesting to examine these differences. There are systematic differences using nonparametric statistics on the distribution of the Has scores over the four regions. The Has score distribution across regions is highly skewed, with the Has scores ranging from 0 to 100. The following nonparametric comparisons are presented:

1. 1. Pre- and Post-HACCP Scores
Has scores before and after the implementation of HACCP are compared. The Has score distribution before and after HACCP implementation is significantly different.

2. Regional Differences in Scores
Regional differences in Has scores are examined. The Has scores for the four regions are compared, and the comparison is significant.

3. Comparing Scores at a Plant Level
Comparison of Has scores across plant types is also conducted. The Has scores for different plant types are compared, and the comparison is significant.

CONCLUSIONS
The Has scores differ significantly between large and small plants. The Has scores in large plants are higher than in small plants. The regional differences in Has scores are also significant. Scotland has the highest average Has score, followed by England, Wales, and Northern Ireland. The Has scores in Scotland are significantly higher than in the other regions. The Has scores in England are significantly lower than in the other regions.

ACKNOWLEDGEMENT
1. Ph.D. student, Department of Agricultural, Environmental, and Development Economics, The Ohio State University. Email: shang.22@osu.edu
2. Assistant Professor, Department of Agricultural and Environmental Development Economics, The Ohio State University. Email: hooker.27@osu.edu