Barry O'Neill, "Risk Aversion in International Relations Theory" CISAC Paper (1999)

ABSTRACT AND INTRODUCTION

For the oft-used concept of risk aversion, the decision's objectives must be measurable on an interval scale. IR decisions almost never meet this demand, which makes application of the prospect theory difficult. Two non-metric risk aversion definitions are: 1) comparative risk aversion makes statements about relative degrees but does not absolutely separate risk-averters from risk-seekers; 2) multiattribute risk aversion for goals with several dimensions. Only when the objective of the decision is some measurable commodity can we set a test in which the gamble's "expected face value" is equal to the sure thing. Expected face value cannot be defined in IR.

THE NEED FOR AN INTERVAL SCALE IN THE STANDARD THEORY

Risk-neutral is indifferent between $100 and 50/50 gamble for $0 or $200. Risk-acceptant (seeking) prefers gamble over the certain outcome. Risk-averse person chooses the certain over the gamble. Risk aversion utility curve is concave (bulges up, the graph is above the line connecting two points).

Some Basics of Measurement Theory: A measurement scale is an assignment of numbers to a set of empirical events such that certain (and not all) arithmetical relations among the numbers mirror certain empirical relations in the observable world among the events. In an ordinal scale, the numerical comparison of greater or lesser has meaning. In an interval scale, a meaning is also attached to numerical comparisons of one interval with another. Money is an interval scale: adding (concatenating) one dollar to $2 brings it up to $3, as it does $5 to $6. IQ scores are only ordinal. Risk averse means that utility increments are shrinking for equal increases in the desired commodity. "The problem is that a typical international decision is over a bundle of objectives, some with interval scales and some without." Risk Aversion and PT: Because the risk attitude is at the center of the PT (as opposed to in the utility theory), this is problematic. O'Neill briefly reviews PT (refer to my Farnham summary). Levy sees the interval scale problem only as lack of experimental control. Boettcher argues that the problem is getting full data. Without an interval-scale for the goal, risk attitude is simply not defined.

PAST RESPONSES TO THE SCALE PROBLEM

1) When leader has a predictable outcome and an uncertain outcome→ interpreting a sure or a risky choice as a sign of risk aversion or acceptance, respectively. Trick question: A risk-averse person has two options, a sure outcome with utility 100, or a 50/50 gamble with expected utility 100. Risk attitude in general attributed with a hindsight, which is problematic. 2) Suggesting, without elaboration, that there is an appropriate interval scale compared to which the decision-maker is being risk-averse or acceptant. Relative terms usually defined vis-à-vis the utility theory. Or suggesting that there are correct utilities for a decision and compared to these, the state is being too safe or risky. 3) Defining risk attitude based on an equal spacing of the possible outcomes along the x-axis. The problem is of the arbitrariness of the equal spacing. Problems with other past attempts are: assumption of single-peaked preference, interval variable over something that is not the goal, ambiguity aversion rather than risk aversion.

COMPARATIVE RISK ATTITUDE, A NON-METRIC DEFINITION

Assume two decision makers whose set of riskless outcomes can be matched pairwise. One's win would be matched with the other's win, etc. Plot B's utility values for the outcomes on the x-axis, plot A's utility vertically. If the points lie on an increasing straight line, the individuals have he same comparative risk attitude. If they form a one-to-one increasing concave function, then B is comparatively more risk-averse than A. If one-to-one convex, then B is comparatively more risk-acceptant. There is no restriction that the matched pair of events be compatible. Comparative risk aversion as a personality trait: (Economic) risk attitude is not intrinsic to the person, but reverses depending on the framing of the decision. Comparative risk aversion, however, can be seen as a personality trait. Psychological test results back this up. Economic risk attitude varies, because money, the typical commodity, is usually instrumental and the end for the means varies greatly with situation.

RISK ATTITUDE IN THE ABSOLUTE SENSE: A NON-METRIC DEFINITION

The basic idea: Risk aversion means being satisfied with achieving either one objective or another, rather than wanting to take the chance of going for both. → multiattribute risk attitude

1) Probability 1/2 of getting both the car and boat; probability 1/2 of getting neither versus 2) probability 1/2 of getting only the car; probability 1/2 of getting only the boat. Choose 1, multiattribute risk-acceptance; 2, multiattribute risk-aversion; 3, multiattribute risk-neutrality. This is an absolute conception that requires some prior ranking that helps us identify which gamble of the pair to associate with risk aversion. Multiattribute risk aversion in IR theories: Examples of guns and butter; international peace versus domestic attitudes of isolationism. Empirical evidence on multiattribute risk aversion: "joint receipt"—questions like, would you rather get 2 B's or an A and a C? (*The section is theoretical and not very helpful. If you want to red more, refer to pp. 17-18*) One interesting implication is that if the decision-maker has a flexibility in choosing the time to decide, the theory has implications for when the decision will be faced.

FEARON'S CATEGORIZATION OF RATIONALIST EXPLANATIONS OF WAR

Fearon's proof in the argument is based on the assumption that states are risk-averse. Fearon's recognition of the interval-scale problem and restricting it to territory disputes narrows the IR problems too much. First, using multiattribute risk-averse assumption: For certain probabilities of winning the war, multiattribute risk-averters may have no negotiated settlement that they mutually prefer to the war!!! Second, using comparative risk-aversion: greater risk aversion promotes peace. If one of the states becomes more risk-

averse than before, the set of possible negotiated settlements includes the original set and possibly more. Moreover, Fearon's argument assumes an economic gamble, in which states gamble their existence until they go out of existence. However, while a state may be risk-acceptant in issues arising in the prewar negotiation, it may be risk-averse when its existence is threatened. This may lead negotiations to fail. Sometimes, risk attitudes cannot be attributed , even with the non-metric conceptions.

Nothing useful is in his conclusions.