PHD THESIS SUMMARY:

The role of negotiations in achieving Pareto optimality in multi-dimensional cooperation games: implications for the ethical conduct of business

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DBA/PhD in business administration, October 2014

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Numerous excellent macroeconomic studies have been done concerning the recent and, to some extent, still ongoing financial crisis and the painstaking recovery which has followed it. Not a small number of experts have expressed their puzzlement that such a phenomenon could occur in apparent contradiction to efficient market theory. Through it all, however, orthodox microeconomic theory has remained intact and, seemingly, has not even been seriously challenged. Yet the need to reexamine the fundamental propositions of this theory is obvious as the recent financial earthquake found its epicenter in a consumer debt crisis in the United States, the result of innumerable microeconomic decisions of consumer households.

The thesis proposes to formulate a microeconomic explanation for a contemporary macro-economic phenomenon that forms the essential backdrop of the consumer debt crisis, the failure of the growth of real wages to keep pace with productivity increases in the overall economy (Madland and Walter 2009). This fact, in itself, violates a fundamental premise of orthodox economic theory and necessarily implies that wages do not equal marginal productivity. At this point, it is obvious that the entire matter cannot be analyzed in terms of aggregate demand, but rather requires a disaggregation of that demand and an examination of the inter-sectoral mechanisms producing the consequent structure of demand.

Despite the marginal revolution and marginal utility theory, a subjective theory of value has been only partially embraced by orthodox economic theory. Austrian economic theory gives a fuller development to subjective value in its analysis of the market, while, simultaneously, almost entirely neglecting both economic exchange and the role of value within institutions. The largely unresolved problem of marginal cost

posed by Ronald Coase (1946) is a problem only because orthodox theory largely relies, in the final analysis, on a cost of production basis to economic exchange. The pervasive existence of varying opportunity and conflict costs, and of highly differentiated markets have little impact, at least in theory, on the price point at which exchange takes place, giving to subjective value only a truncated expression in the final result.

Furthermore, orthodox economic theory has traditionally distinguished two very general areas of exchange, those that are external to organizations, i.e. market exchange, and those that occur within organizations and which are governed by hierarchical structure. The latter is generally the subject of a quasi-independent field of study known as institutional economics. Neo-classical economic theory, relying almost entirely on the market approach, historically has treated the firm as a *black box* (Coase 2008; Demsetz 1993) whose internal workings are largely separate from the broader market. Central to the theoretical propositions developed in the thesis is a model of economic exchange which seeks to identify the common elements of both market and hierarchical organization and, abstracting from these, to present a completely general model which is applicable to the entire range of transactions involved in economic exchange, and which sees both pure market and pure hierarchy as idealized abstractions comprising opposite poles of a spectrum.

In developing a general approach to economic exchange, the thesis takes as its starting point social choice theory (SCT) and particularly Arrow's general possibility theorem (GPT). The latter, in particular, in concluding that no social ordering is possible which can satisfy the ordinal preferences of the members of a society, essentially demands modification of its fundamental axioms to establish a stable societal equilibrium. The fact that SCT and the GPT derive from ordinal non-comparability of individual preferences makes them compatible with a theory of subjective value and methodological individualism. The theory developed in the thesis begins by introducing a dyadic model of exchange (Brennan and Buchanan 1985) into social choice theory. This dyadic model necessarily excludes political processes which are beyond its scope as is public choice theory in general.

From this starting point, the thesis performs three modifications to Arrow's (1963) axioms. The first is that the domain of preferences is restricted to those applicable to each dyadic exchange. The second is

that the independence axiom is modified to permit exchange over future stochastic events and, therefore, over risk. The third modification is that, while the assumption that value preferences remain as both ordinal and non-comparable at the societal level, in each individual exchange, the parties develop *sui generis* evaluations which are comparable. Cooperation games are used to model the general theory of exchange. Cooperation games differ from non-cooperative games in that the payoffs are not ordained by the rules of the game but may be modified by the parties. The resulting models involve an exchange of information and value and are labeled *negotiations*. A definition of bargaining power for each party is derived.

The central theoretical conclusion at which the thesis arrives is that the distributive and allocative results of negotiations under conditions of equal bargaining power are equivalent to those produced by a hypothetically perfectly efficient market. Ethically, therefore, from the point of view of both efficiency and fairness, ex-ante attempts to equalize bargaining power are preferred over ex-post attempts at redistribution. Moreover, economic, social, and political changes can alter bargaining power and, consequently, move outcomes along a Pareto frontier. Since, at the societal level, no measure of value is fully applicable, both a significant degree of federalism and decentralization are called for to achieve negotiations of the optimal scope. Broad policy solutions should be limited to those few issues on which genuine broad agreement is assured. In general, individuals and dedicated groups, e.g., firms, labor organizations, etc., can better negotiate for their own interests.

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Richard Stomper received his BA degree in physics from the University of Chicago and his MBA from Loyola University of Chicago. He holds the dual degree of doctorate of business administration from SMC University and PhD from Central University of Nicaragua. He works as a field representative for the Illinois Fraternal Order of Police Labor Council. He has extensive experience negotiating and administrating labor contracts.

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