PEAKONOMICS: TOWARD A CASE TYPOLOGY FOR INCREASING UNDERGRADUATE ECONOMICS LITERACY AND CONCEPT RETENTION

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ABSTRACT

This paper hypothesizes there is a legitimate enhanced role in undergraduate economics curricula for study examples modeled from the popular book Freakonomics Levitt and Dubner (2005). The following research question is posed: Can popular Freakonomics style economic case examples increase average student retention of basic economics principles? Selected Freakonomics case examples are compared with leading contemporary economics texts to reveal similarities in the economic concepts they demonstrate. An economics case typology named Peakonomics is then presented to establish face validity towards a case typology that can be further researched quantitatively. This line of inquiry warrants a rigorous analysis and academic dialogue in part due to a recent adoption pattern of Freakonomics in many universities in economics and non-economics classes.

INTRODUCTION

This paper hypothesizes there is a legitimate enhanced role in undergraduate economics curricula for examples modeled from the popular book *Freakonomics* Levitt and Dubner (2005). The following research question is posed: Can popular *Freakonomic*s style economic case examples increase average student retention of basic economics principles? Selected *Freakonomics* case examples are compared with leading contemporary economics texts to reveal similarities in the economic concepts they demonstrate. An economics case typology named *Peakonomics* is then presented to build face validity for quantitative research answering the posed question. This line of inquiry warrants a rigorous analysis and academic dialogue in part due to a recent adoption pattern of *Freakonomics* in many prestigious universities in both economics and non-economics classes.

Freakonomics has experienced a recent adoption pattern in comprehensive universities in both economics and non-economics classes. Examples include Senior Honors Thesis Seminar at Berkeley, Public Policy Analysis at Georgetown, International Business at American University and Public Service Management at NYU. The initial publishing of *Freakonomics* was primarily novelty recreational reading for serious economics scholars. By contrast public interest in *Freakonomics* is overwhelming. Since its inception Levitt and Dubner's work sustained a position for 98 weeks on the *New York Times* best-seller list dropping to 17th place in mid April of 2007.

The topic is also timely because of a trend toward a simplified and more natural approach in the presentation of the best selling introductory economics texts. Hansen et al (2002) observed that undergraduate students who had previously completed an introductory economics course did not understand basic economic concepts better than students who had no formal economics education. Within a few years many texts responded with an increased focus on the most important concepts further supported by the use of updated and practical demonstrative case examples. This simplified approach to explaining basic economics concepts to university students is described in part with phrases including: *"thinking like an economist"* Mankiw (2007), having *"an economic perspective"* McConnell and Brue (2006), and being an *"economic naturalist"* Frank and Bernanke (2007).

Additionally, there is a large body of literature supporting intrinsic motivators as a key factor in student ability to learn a subject. Examples include Feldman's (1989) finding that in addition to course organization and presentational clarity, the most important factors for learning were relevance of subject, stimulation of interest, and encouragement of discussion with peers. Fitzpatrick, McConnell and Sasse (2006) argue that it is paramount that students believe they are capable of using/applying the material beyond the classroom setting for it to be meaningful. According to Hodgin and Marchesini (2003) most theorists studying efficacy in teaching appear to accept social persuasion as one of the top four efficacy determinant parameters. Thee typology advanced in this paper defines economics cases with strong potential to elicit student motivation in economics and improve teacher efficacy.

Although not intended as an academic text, *Freakonomics* is essentially a collection of cases demonstrating contemporary examples of a natural approach to economics concepts. The main difference between the *Freakonomics* case examples and contemporary text case examples is the latter are not typically socioeconomic in nature. *Freakonomics* examples often address socioeconomic situations which violate a normative standard involving real life situations. One may argue that *Freakonomics* has no presentation of the analysis behind the case presentation, however it should be noted that student study guides are now available for free on-line at http://www.freakonomics.com/studyguide/.

Our hypothesis that *Freakonomics* style cases will improve student retention is based on the emotional intrigue of the general public to the violations to normative standards within the *Freakonomics* examples. It therefore follows that the typical student 's interest and retention of economics concepts should be improved by including more *Freakonomics* style cases in the undergraduate introductory economics course plan and/or text. The linkage between performance in economics courses and student interest level is not new. Dynan and Rouse (1997) argue that women do less well in economics courses relative to their other courses possibly because of differing tastes or information about the nature of economics. Borg and Shapiro researched the relationship between students ' personality types using the Myers- Briggs Personality Type Indicator and their performance in introductory economics. They suggest that "improving instruction in the introductory economics course by offering a variety of different teaching and grading strategies will better accommodate our students' diverse personality types and learning styles " Borg and Shapiro (1996). Since the Levitt and Dubner style examples are popular and already gaining some ground in academia, then *Freakonomics* cases make an excellent subject for more rigorous analysis of the hypothesis and proposed research question presented herein.

Based on our arguments and stated research question above we developed a comparative summary Table 2 (below) of both the Mankiw and Frank and Bernanke text approach. This summary is the basis for a brief review comparing and contrasting extant text principles to selected examples in *Freakonomics* and supporting our argument that this case style relates to the current instruction of introductory undergraduate economics curricula. Following the review a new typology is proposed with the intention of building face validity and ultimately construct validity in subsequent quantitative analysis.

A survey of the Palmer and Carlson (2006) *Freakonomics* study guide reveals the Frank and Bernanke *Incentive Principle* and the corresponding Mankiw *Principle 4: People Respond to Incentives* are both supported by case studies in Chapter 1 of *Freakonomics* . One *Freakonomics* example supports the hypothesis that public school teachers in Chicago are motivated to inflate student tests scores even by cheating as a result of The No Child Left Behind Law, which places accountability for test results on the teachers. A second *Incentive Principle* example demonstrates the motivations of sumo wrestlers in Japan to throw matches under circumstances when critical rankings are at stake to help maintain the status quo. Finally, Levitt and Dubner test people 's incentive to cheat a private entrepreneurs ' bagel business operating on the honor system for cash collection. All the noted *Freakonomics* examples are quite interesting and relate to the principles being taught in leading contemporary texts.

TABLE 1 – INDICATIVE CORE PRINCIPLES OF CONTEMPORARY ECONOMICS TEXTS

Mankiw Principle	Frank and Bernanke Principle
Principle 1: People Face Trade- offs	The Scarcity Principle
Principle 2: The Cost of Something Is What You Give Up to Get It	The Principle of Increasing Opportunity Cost
Principle 3: Rational People Think at the Margin	The Cost Benefit Principle
Principle 4: People Respond to Incentives	The Incentive Principle
Principle 5: Trade Can Make Everyone Better Off	The Principle of Comparative Advantage
Principle 6: Markets Are Usually a good Way to Organize Economic Activity	The Efficiency Principle The Equilibrium Principle
Principle 7: Governments can Sometimes Improve Market Conditions	Not a Core Frank and Bernanke Principle
Principle 8: A Country 's Standard of Living Depends on Its Ability to Produce Goods and Services	The Principle of Comparative Advantage
Principle 9: Prices Rise When the Government Prints Too Much Money	Not a Core Frank and Bernanke Principle
Principle 10: Society Faces a Short- Run Trade- off between Inflation and Unemployment	Not a Core Frank and Bernanke Principle

By comparison Frank and Bernanke examples demonstrating the incentive principle utilizes the classic invisible hand explanation supported by the observation that supermarket checkout lines tendency to be roughly the same length. They also use two auction examples, the first auction forces the losing bidder pay his highest last bet (very unusual) and a second example uses an abstract political lobbying cost analysis for a mobile carrier license. Mankiw provides one example using an analysis of auto safety laws. The study indicated that wearing seat belts produced little change in the number of driver fatalities because, while wearing them saved more lives, it also gave people an incentive to drive faster and therefore caused more accidents. His second example assesses basketball star Lebron James' choice to skip college and go straight to pro basketball as an indication of a financially motivated incentive.

While the Frank and Bernanke examples had merit, the *Freakonomics* examples were more interesting to students at West Chester University based on informal feedback from assignments received by this author 's students. Other feedback from West Chester University students indicated Mankiw 's Lebron James example was easier to understand than the Frank and Bernanke example, however they noted it did not develop enough detail of Lebron James ' decision process. It is also the author 's opinion that the selected *Freakonomics* examples did a better job balancing interesting topics with salient conceptual points in all cases.

Chapter 2 *Freakonomics* examples demonstrate Frank and Bernanke 's core principle of equilibrium and efficiency and Mankiw 's Principle 6. An important condition for an efficient market is that both the buyers and sellers have perfect information. Levitt and Dubner use the information asymmetry that exists between real- estate agents and their clients to demonstrate inefficiency in the real estate industry 's client- agent relationship because typically the buyers do not have as good information as the agents related to the market. Frank and Bernanke 's text makes effective use of used car purchases to demonstrate the efficiency of information in markets. On the surface it appears the emotional linkage to their example would be similar to the *Freakonomics* example. Longitudinal retention research may or may not demonstrate the relative strength or weakness the example of self- serving real- estate agents case over the used car approach, however the *Freakonomics* case does appear to have merit as a case worthy of classroom use, particularly if the class text does not have an example of the principle of efficiency of information.

Chapter 3 *Freakonomics* cases reinforce Frank and Bernanke 's cost benefit principle and also illustrate fundamental economics principles such as a "winner take all " labor market. Both concepts are showcased with a study of real and detailed financial records from a Chicago "crack " gang. The records hold detailed information on the operations, organizational structure, and finances of the gang 's illegal business. Fixed and variable costs illustrating Mankiw 's margin Principle 4 are broken down in a story certain to capture the attention of students. Mankiw 's own fixed and variable costs example is the case of Thirsty Thelma 's Lemonade Stand. Which example do you think will be more likely remembered by the typical student? The crack gang 's records also dispel the myth that all drug dealers are rich and essentially describe a "winner take all " labor market. Frank and Bernanke illustrate the "winner take all" labor market concept by asking the following question: Why does Renee Fleming earn millions more than sopranos of only lesser ability? This author randomly asked West Chester University students which example they thought would make a more lasting impression of the "winner take all" labor market amongst their fellow classmates. The crack gang example was chosen in all cases. It would also appear this example is likely to better reach students with urban backgrounds.

There are many more overlaps in economic concepts that are illustrated in the extant texts selectively noted in Appendix 1 and the popular economic examples in the books noted in Appendix 2. The selected examples above are provided only to illustrate that there is in fact much in common between the approaches. There are also some key differences, which should be understood if we are to consider a methodologically sound analysis of the impact of incorporating socioeconomic cases into university economics curricula.

Before proposing a typology that differentiates between typical contemporary economics class examples and *Freakonomics* style examples a few key considerations must be addressed. Levitt and Dubner do not have exclusive domain over this genre and other notable authors have already published potential contributions (see appendix 2) so the typology should not carry the name *Freakonomics*. The name *Peakonomics* is therefore suggested because it captures the essence of the genesis of the typology as well as the goal of obtaining peak economic literacy. Furthermore the typology should be more dynamic than just a description of what constitutes a *Freakonomics* case by making it a time bound typology. Many university economics professors teach longer than the average age of a typical undergraduate micro or macroeconomics student. Therefore it is easy to imagine how quickly examples that seem relevant to many professors can be alien to the students. In response to this issue the proposed typology contains a 10-year limit due to the natural loss of relevance after 10 years to the typical undergraduate in their late teenage or early adult years. Mastery means the ability to apply content to new situations. Setting out "what the student should be able to do" is essential and lays the groundwork for assessment Hansen (2001). Hansen's comments lend additional support the validity of the proposed time element of the typology. An optimum duration can be tested quantitatively over time.

Table 2 summarizes a classification scheme that differentiates between the typical contemporary economics text examples and *Peakonomics* typology case examples.

We posit that using the *Peakonomic* typology supports Hansen et al (2002) recommendation that instructors develop graph-free strategies for teaching most concepts based on Cohn et al (2001) experimental evidence demonstrating the limitations of graph- centered instructional technique for economics principles. This typology should be used with moderation and is not intended to degrade the quality of economics pedagogy nor reduce graphs from the curriculum, rather augment them. Additionally we acknowledge that a high percentage of candidate cases for the *Peakonomic* typology will demonstrate the unintended consequence of an action or situation. We are not recommending an instructional bias towards cases demonstrating unintended economic consequences. Instead it is suggested that *Peakonomic* typology cases are paired with intended consequence cases to reinforce the point. With prudent application it is suggested that more graph-free strategies and case examples with *Peakonomic* intrigue will improve concept retention. Certainly more ground is to be gained in the competition for student retention in the field of economics and introducing updated economics examples to courses at the introductory level may assist in making these gains.

TABLE 2 - PEAKONOMIC CASE TYPOLOGY

Parameters of the Case/Example	**Peakonomic Typology**
Hypothetical Example	Never
Supports a Normative Example*	Never
Real Life Example	Always
Descriptive (Positive) Example	Always
Violates a Normative Standard**	Always
Recent Example (within 10 years)	Always

*The definition of "supports a normative example " as used above means the subject/action of analysis shows how something should be or occur (ought to be) in the world.
**The definition of "violates a normative standard " as used above means the subject/action of analysis is in ethical or moral opposition to any readily discernable group of people that is apparent to the student. The group could be as broad as law-abiding citizens or as narrow as a specific demographic group. This is included in the typology because it expresses a socioeconomic characteristic making it memorable.

There are minimally three types of students receiving introductory economics classes at the undergraduate level. These three types include: business majors interested in economics, undecided students that may be interested in economics, and students from other majors that take economics because it is required for their major or chosen as an elective. Enrollment data demonstrates how important the principles course is to the overall student exposure to the subject. In 1998, of all undergraduate students at four-year institutions, 40 percent completed at least one economics course; 19 percent completed only one course Siegfried (2000). Students who take one economics course, take principles. Students who take two courses, almost always take a two-term principles sequence. Hansen (2002).

CONCLUSION

This paper suggests that including *Peakonomic* typology cases in the introductory two-term classes has the potential to create better retention and appreciation for economics concepts in today's undergraduate students. This paper takes the first step in establishing face validity towards a case typology that can be further investigated via time series tests of retention before and after inclusion of the typology utilizing all or part of a standardized test such as the Test of Understanding in College Economics (TUCE-4) in a broad range of undergraduate academic settings.

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APPENDIX 1

Top 10 Bestselling Amazon Microeconomics Texts January 6, 2007

Method – Using any web browser and click http://www.amazon.com then search by textbook, business and investing, economics, and microeconomics sorted by bestselling. Books that did not have a study guide in some version (indicating they probably were not really textbooks) were omitted from this list.

Top 10 Most relevant Amazon Principles of Economics Texts January 6, 2007

Author(s)	Text Title	ISBN	Rank	Publisher	Full Text
Mankiw	Principles of Economics (Hardcover)	ISBN-10: 0324168624	1	South-Western College Pub; 3 edition	N
Mankiw	Principles of Economics Student Edition	ISBN-10: 0324224729	2	South-Western College Pub; 4 edition	Y
Case and Fair	Principles of Economics (8th Edition)	ISBN-10: 0132289148	3	Prentice Hall; 8 edition	Y
Frank and Bernanke	Principles of Economics + DiscoverEcon code card	ISBN-10: 0073230596	4	McGraw-Hill/Irwin; 3 edition	Y
McConnell and Brue	Economics: Principles, Problems, and Policies, 16th Edition	ISBN-10: 0072819359	5	Irwin/McGraw-Hill; 16th edition	Y
Holt	Principles of Economics (Spiral-bound)	ISBN-10: 0073542857	6	McGraw-Hill Primis Custom; 3 edition	N
Frank and Bernanke	Principles of Economics	ISBN-10: 0072503300	7	McGraw-Hill/Irwin; 2 edition	Y
O'Sullivan and Sheffrin	Economics: Principles and Tools (4th Edition)	ISBN-10: 0131479717	8	Prentice Hall; 4 edition	Y
McConnell and Brue	Economics: Principles, Problems, and Policies (Paperback)	ISBN-10: 007111212X	12	McGraw-Hill/Irwin; 16 edition	N
Case and Fair	Principles of Economics (7th Edition)	ISBN-10: 0131441728	15	Prentice Hall; 7 edition	Y
Hall and Lieberman	Economics: Principles and Applications, 2006 Update (with InfoTrac®) (Hardcover)	ISBN-10: 0324335814	21	South-Western College Pub; 3 edition	Y

Method – Using any web browser click http://www.amazon.com then search by books, and principles of economics sorted by relevance.

Column rank is the actual ranking on Amazon. When an item is omitted from the list it is because the text was identified as intermediate, financial or otherwise not an introductory academic text. This explains omissions such as ranks 9,10 and 11 in the most relevant list above. Books that did not have a study guide indicating they probably were not textbooks were omitted from this list.

APPENDIX 2

Selected Popular Books with Socioeconomic Examples

Book	Authors	Publisher	Published Date
The Economic Naturalist: In Search of Explanations for Everyday Enigmas	Robert H. Frank	Perseus Books Group	2007
The Winner- Take- All Society: Why the Few at the Top Get So Much More Than the Rest of Us	Robert H. Frank Philip J. Cook	Penguin Books	1996
Hidden Order: The Economics of Everyday Life	David D. Friedman	Harper Collins	1996
Law's Order: What Economics Has to Do with Law and Why It Matters	David D. Friedman	Princeton University Press	2001
Armchair Economist: Economics And Everyday Experience	Steven Landsburg	Free Press; Reprint Edition	1995
More Sex Is Safer Sex: The Unconventional Wisdom of Economics	Steven Landsburg	Simon & Schuster Adult Publishing Group	2007
Freakonomics: A Rogue Economist Explores the Hidden Side of Everything	Steven D. Levitt, Stephen J. Dubner	Harper Collins	2005
The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations	James Surowiecki	Doubleday	2004