

# Capitalism Receives Failing Grade

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## The Report Card

<b>Cooperation®</b> The Wealth of Nations Game® Report Card 2013		
Barter	75%	C
Socialism	80%	B
Capitalism	45%	F
Autonomous Cooperation	91%	A

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## Introduction

Although it is called a "game," Cooperation®: The Wealth of Nations Game® is, technically, a simulation. A simulation is a way that sociologists can approximate the controlled conditions of a laboratory experiment available to other sciences but not to sociologists because we cannot experiment with actual societies in laboratories. Just like an experiment in a laboratory, simulation rules can reduce a system to its essential nature so that its effects on the well-being of citizens living in such a system can be identified, evaluated, and improved.

Cooperation®: The Wealth of Nations Game® enabled its inventors, Bob Blain and Bob Gill, with the aid of thousands of university students from 1975 when the game began, to the first years of the 21st Century, to identify a set of rules that would work better than barter, socialism, and capitalism. The Report Card shows that the game succeeded in its purpose with the development of Autonomous Cooperation, a

set of rules that combines the strengths and avoids the weaknesses of the other three sets of rules.

One hundred and forty-three students from three university sociology classes in the early 2000's gave the responses that produced the grades reported here. They had played the game in groups of up to six members in four consecutive class periods, first, by the rules of Barter, second, by the rules of socialist Majority Rule, third, by the rules of capitalist Making Money, and fourth, by the rules of Autonomous Cooperation. In the fifth class period, they discussed their experiences with other students who had played in their group, then each student answered a simple yes or no to the following six questions about each game.

1. Did you share the work?
2. Did you share the wealth?
3. Did you communicate?
4. Did you specialize?
5. Did you reciprocate?
6. Did you have wealthy cities?

The percentage of yes answers converted to letter grades as follows:

- 90 to 100% yes = A
- 80 to 89% yes = B
- 70 to 79% yes = C
- 60 to 69% yes = D
- Below 60% yes = F

While the number of students is small, their answers are typical of the thousands of students who have played the game over the course of more than the 25 years that the game was developed. Over that 25-year period, the rules for Autonomy were modified to improve its performance measured by yes responses to the six questions above. That is the purpose of simulation. Just as wind tunnels improved the aerodynamics of aircraft fuselages and automobile bodies, the game showed where changes would improve Autonomy.

If you want to check the validity and reliability of the grades reported here, you can replicate the simulations on your own with the game, which is available in both board game and computer form. You can also see if you can identify changes that would improve its performance still more.

To download the computer version, visit: <http://www.hourmoney.org/> The computer version has the advantage of handling everything electronically, but the disadvantage of being playable only on a single computer. On the website, you will also find links to several books related to the problems with the other systems.

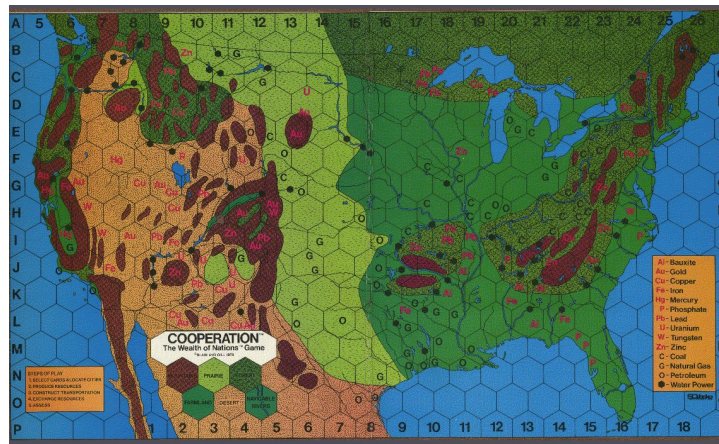
A few copies of the board game are available for \$30 plus shipping and handling. To order one of the remaining board games, [email:rblain@charter.net](mailto:rblain@charter.net) with your shipping and billing addresses.

Let me be clear. I am not doing this to sell games. I am doing it to get us to a better economic system. The grades from this simulation give what I think is an unprecedented valid and reliable estimation of what we get from barter, socialism and capitalism and how much better we can do with the rules for autonomous cooperation.

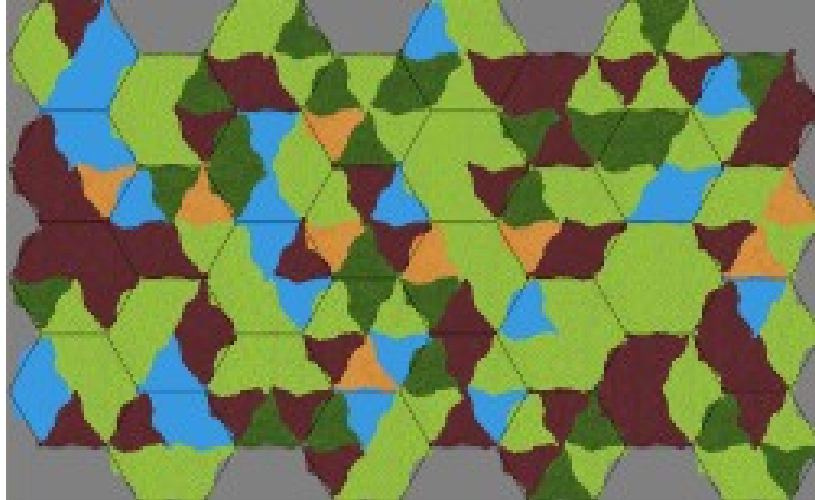
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## Brief Idea of the Game

The game board is the middle of North America because the game was initially developed in a sociology course on the United States, but the simulation is relevant anywhere.



The computer version gives players the option of playing on a random game board. At the start of a game, players can increase or decrease each type of terrain, approximating different regions of the globe, to see how geographic variations affect play.



In the game, each player, up to six in a group, places cities of 20,000 people each on the game board. A complete game consists of three generations. Players start with one city in the first generation, a second city in the second generation, then a third city, if all survive, in the third generation. (The version available now has each player playing with only one city for the entire game. The one-two-three-cities rule complicated play unnecessarily.)

Their score at the end of the third generation is the one that they are instructed to maximize.



By the draw of a Skill Card at the start of a game, each city starts out Primitive, Pioneer, or Privileged, which defines the resources that people in a city have the skills to produce and how many people are required to produce them. Players can put the people in their cities to work building transportation, educating citizens to a higher skill level, producing resources, and/or having free time. These tasks occur in all the games. (A Radical Simplicity version now available reduces play to producing and

exchanging resources. Education and transportation are absent. The Radical Simplicity version also involves only three resources: Food, Fiber, and Wood.)

Players in Barter, Majority Rule and Autonomy get 10 points for each resource they obtain for each city: Food, Fiber, Wood, Metal, and Fuel, for a maximum of 50 Resource Points per city. A city without Food dies. Players get one free time point for each 1,000 people they do not put to work, for a maximum of 20 Free Time Points per city. The maximum score per city is  $50 + 20 = 70$ . In Making Money, no City Wealth scores are calculated because they are not calculated in actual capitalist economies. Instead, the only thing that matters for winning at the end of the game is having more money than anyone else.

People everywhere make decisions similar to those made in the game: where to build cities and lines of transportation, when to educate people and which resources to produce and trade. Cities in the game have populations of 20,000, but they could be larger or smaller. Twenty thousand was chosen to make score sheet entries and price calculations easier. What are Cities in the game could be played as if they were countries, except for the important complication of unequal currency exchange rates. A method for equalizing currency exchange rates is introduced in section III of this report.

This report includes:

- I. How students graded each set of rules;
- II. How Autonomy rules could translate into national policies;
- III. How to equalize currency exchange rates; and
- IV. How to get there from here.

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## I. How Students Graded Each Set of Rules

### Barter: The Beginners' Game

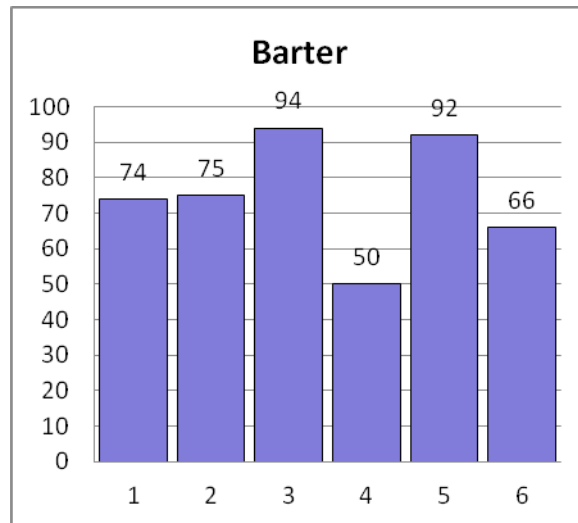
Cooperation: The Wealth of Nations Game is different from other board games in several ways that make it most difficult when students first try to play it. Instead of being easy at first, then getting more difficult as players get good at it, Cooperation: The Wealth of Nations Game starts out difficult. It seems to be too complicated with too much to decide, but that is how real life is when people first settle in a new place. The game gets easier, just as in real life, as players learn to cooperate. Because it is a

simulation, there is no harm in making mistakes and replaying the game to try something different. Barter is called "the beginners' game" in part because barter is what economists generally use as their starting point for describing the evolution of money but also because players are learning how to use the game equipment.

The game objective in Barter is for a player to get an average city wealth score by the end of the third generation as close to 70 as they can; 10 points for each resource, Food, Fiber, Wood, Metal, and Fuel, 50 maximum, plus one free time point for each 1,000 people in a city who do not need to work, 20 maximum.

Barter uses no money. Players must have a resource to trade with another player in order to barter for another resource from that player. In addition, their cities must be linked by lines of transportation that one or the other of them has used people in their city to build.

The percentage of the 143 students who answered yes to each question about Barter was as follows.



1. Did you share the work? 74% yes, letter grade C.
2. Did you share the wealth? 75% yes, letter grade C.
3. Did you communicate? 94% yes, letter grade A.
4. Did you specialize? 50% yes, letter grade F.
5. Did you reciprocate? 92% yes, letter grade A.
6. Did you have wealthy cities? 66% yes, letter grade D.

The average of 75% yes gives Barter an overall passing grade of C.

The main problem with Barter was specializing, only 50 percent. Why? Because with Barter specialization will result in successful barter only if four conditions are met:

1. Both players must have a surplus of what the other wants. If one has surplus Food and needs Fiber, the other player must have surplus Fiber and need Food. Without Food, a city dies, so players tend to produce their own Food and have nothing to barter.

2. Both items must be ready at the same time. In game terms, Food produced in one generation spoils at the end of the generation, so it cannot be bartered for Fiber produced in the next generation. Surplus Fiber, Wood, Metal and Fuel carry-over and can be bartered in the next generation.

3. Both items must be in the same place. In game terms, both cities must be linked by lines of transportation. Players new to the game tend to place their cities too far apart to be able to build enough links of transportation to be able to barter. They quickly learn the importance of placing their cities closer.

4. Both items must be equivalent. In the game, all resources are worth the same, 10 resource points. Bartering one for another is by that measure equivalent. That is why 92 percent of students said they reciprocated. What they were not aware of was the difference in the *cost* of the resources they bartered. Cost is unnoticed in Barter.

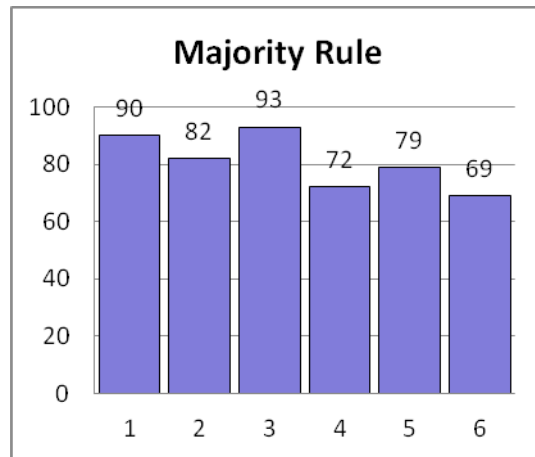
Still, with all its limitations, bartering resulted in two-thirds of the cities being reported wealthy (question 6). Overall, Barter received what is conventionally a passing grade, 75 percent yes for a C.

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## Majority Rule: The Socialist Game

The rules for Majority Rule: The Socialist Game change from Barter in three ways; first, everything is owned collectively by all players; second, all decisions must be made by voting, the majority wins; and third, all players receive the same score at the end of the game, which is the average of all city wealth scores - called the Wealth of the Nation score. These rules simulate the socialist ideals of collective ownership of the means of production, political democracy, and "from each according to their ability, to each according to their need."





Students answered the six questions about Majority Rule as follows:

1. Did you share the work? 90% yes, letter grade A.
2. Did you share the wealth? 82% yes, letter grade B.
3. Did you communicate? 93% yes, letter grade A.
4. Did you specialize? 72% yes, letter grade C.
5. Did you reciprocate? 79% yes, letter grade C.
6. Did you have wealthy cities? 69% yes, letter grade D.

The average of 80% yes gives socialist Majority Rule an overall grade of B.

Majority Rule encouraged cooperation a bit more than Barter. Sharing the work is up from 74% to 90% (Q1); sharing the wealth is up from 75% to 82% (Q2).

Communication at 93% (Q3) is almost identical to Barter's 94%. Specialization is up from 50% to 72% (Q4). However, reciprocity dropped from 92% to 79% (Q5). Wealthy cities at 69% (Q6) was only slightly better than Barter's 66%. The average of all six answers was barely a B at 80%.

The word *social*-ism signifies people working as a group, as "in it together," and that is how students behaved in Majority Rule. We expect voting to result in better final decisions. Just as two heads tend to be better than one, having many people make decisions should reveal the strengths and weaknesses of different options and result in a better final choice. However, students rarely made even one decision strictly by majority rule, that is, by someone proposing an action and everyone voting on it.

Instead, they used consensus. When a player wanted to do something, he or she might ask, "Does anyone object if I...?" You might think consensus, everyone agreeing, would be harder to achieve than a simple majority. However, consensus

happened, not by everyone voting for the same action, but by anyone who might have had an objection not saying anything. Silence implies consent. When no one else objected, the player who might have objected probably suppressed his or her dissent. They knew that an objection would delay the game.

Socialist countries reduce dissent by government ownership of newspapers, radio, and television stations. This suppresses dissent. Individuals probably suppress their own dissent as well. Think of how much effort it would take you to object to a decision made by your local town government or school board. Democracy may improve decisions, but voting on everything is time consuming and soon becomes tedious.

Instead of voting, one or two players took control of the game. The leader or two would tell other players what to do. Oligarchy, a few people taking control, like suppression of dissent, is also characteristic of socialism. It is a natural consequence of an inefficient way of making decisions, namely, voting on everything.

The United States calls itself democratic, although, strictly speaking, it is a republic. Rather than voting on every decision, people vote for representatives, who vote on legislation for them. The reason: it is more efficient, but it is still tedious, as anyone who has watched the US House of Representatives or Senate on C-Span knows. We may blame individual legislators for the difficulty getting legislation enacted, but it is the nature of political democracy to be time-consuming and tedious.

Specialization increased, from 50 percent in Barter to 72 percent in Majority Rule. Collective ownership made it easy to coordinate production in a division of labor. The equivalent in a socialist society is national planning. The self-appointed leader might say, "I'll produce Food, you produce Fiber, and you build transportation, etc." Also, in Majority Rule, resources are *distributed* to all the cities, not bartered, so specialization is not inhibited by the limits of barter.

However, reciprocity went down to 79 percent, from 92 percent in Barter. Why? In Barter, players experience reciprocity directly; "I exchanged my food for your fiber." In Majority Rule, resources are generally distributed, sometimes from a common pool, rather than bartered, so some players give up more (or fewer) resources than they receive. This reduces their perception that trades are reciprocal.

The motto of socialism, "From each according to their ability, to each according to their need," is anti-reciprocity. In Majority Rule, players with Privileged cities often did everything, sometimes leaving Pioneer and Primitive cities uneducated. That strategy reduced the number of workers employed, which increased free time and raised

average city wealth, the Wealth of the Nation score, that all players received. Put another way, averaging city wealth weakens individual accountability. A player whose workers did little or nothing received the same score as a player whose workers did a great deal. Weak individual accountability is also characteristic of socialism.

There is almost no improvement in city wealth, from Barter's 66 percent to Majority Rule's 69 percent. The games are almost identical. Both do not use money and both measure success by city wealth. The only difference is the three rules in Majority Rule that everything is owned collectively, that decisions are made as a group, and that everyone gets the same final score, the average of all city wealth scores.

We can conclude that Majority Rule overcomes the limits of Barter but at the cost of the tedium of voting which is quickly replaced by oligarchy, suppression of dissent and weak individual accountability. These weaknesses, evident among a group of only six players, probably worsen with the much larger populations of cities and societies. This does not mean that voting should never be used; it means that it should be used sparingly, only as necessary.

However, Majority Rule made it into the B grade category at 80 percent yes.

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## Making Money: The Capitalist Game

With Making Money, the Capitalist Game, the game objective changes. From maximizing city wealth, every player's objective is to make money. At the end of the game, the player with the most money wins. Nothing else counts.

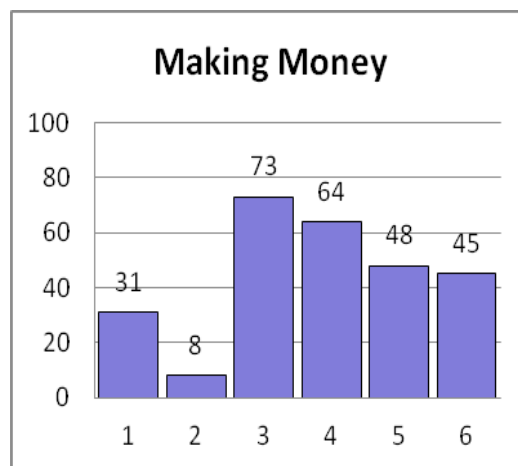
Players are still required to get the five resources for each city. If they fail, they must pay a tax penalty. In addition, players are required to employ all their people in all three generations. If they fail, they must pay a tax penalty for unemployment.

One player becomes the banker by a roll of the dice at the start of the game. In contrast to the game Monopoly, where the banker is not a player, in Making Money the banker is a player. Bankers today in real life capitalism are the most powerful players, so understanding their role is essential to understanding capitalism.

All money enters the game as an interest-bearing loan from the banker to each player. Players must pay 10 percent interest on any unpaid balance of their loan at the end of each generation. They must pay the full balance due at the end of the game. All principal and interest repaid to the banker count, as in real life, as part of the banker's

money for winning the game. Occasionally, a player has objected to these rules about money and the banker, saying that the banker would always win. However, a comment like, "Let's wait and see what happens," would be enough to get them to proceed with play. No one ever refused to play because of these rules about money.

Players have the option of electing a president to play the role of government, collecting tax penalties and deciding how to distribute it among the players. Elections are decided by how many people in a city vote for a candidate plus how much money is spent on the election. Voting and spending money are done by secret ballot; votes plus money decides who wins to become president. Then the president decides what to do with the money.



Students answered the six questions about Making Money as follows.

1. Did you share the work? 31% yes, letter grade F.
2. Did you share the wealth? 8% yes, letter grade F.
3. Did you communicate? 73% yes, letter grade C.
4. Did you specialize? 64% yes, letter grade D.
5. Did you reciprocate? 48% yes, letter grade F.
6. Did you have wealthy cities? 45% yes, letter grade F.

The average of 45% yes gives capitalist Making Money an overall failing grade of F.

Making Money discouraged cooperation. That should be no surprise. Winning is zero-sum. What one player gains in money, other players lose. They must compete. We hear the need to be more competitive coming from capitalism's leaders all the time. I have never heard one say that we should be more cooperative.

Sharing the work and the wealth are down from the 74% and 75% in Barter and 90% and 82% in Majority Rule, to only 31% (Q1) and 8% (Q2). Communication is down

from the 94% in Barter and 93% in Majority Rule to 73% (Q3). The character of communication also changes.

Voices are louder. There is laughter as students wheel and deal to buy and sell resources. Some students get angry with other players who charge "too much" for resources or for the use of transportation links that are also privately owned by the player whose workers built them.

The banker draws fire when interest and principal come due. Some players try to beat the banker by cheating on payments or starving the banker's cities. Players also seem relieved when one of their own cities dies because then they do not need to get resources and jobs for its people. It's all in fun, but you can see the similarities with real life in a capitalist society.

Specialization, 64% (Q4), is up from 50% in Barter, but down from 72% in Majority Rule. Any purchase reduces a player's chance to win the game, so players try to produce everything for themselves, to sell only, never to buy. So specialization for trade declines.

Reciprocity is down from 92% in Barter and 79% in Majority Rule to only 48% (Q5). To make money, transactions by definition must not be reciprocal. One player must get more money while another gets less. Only one player can have the most money at the end of the game. Capitalism violates reciprocity, but the opposite way of socialism. For capitalism, it is, "To each according to their ability, from each according to their need."

The way money enters the game also violates reciprocity. Loans require borrowers to pay back more money than they borrow, which is more money than exists in the game. The amount of money in circulation is equal to the total amount of money borrowed, which is the total debt. However, the amount owed is equal to total debt plus interest. The money supply starts out less than total debt plus interest. Money that originates as interest-bearing debt makes bankruptcy for someone inevitable because interest has to be paid out of principal money. Players must compete ever more intensely to drive others into bankruptcy to avoid it themselves. This is a feature of real life capitalism that seems to get little attention perhaps because the game Monopoly, which teaches capitalism, originates money by simply giving it to players at the start of the game. The focus of Monopoly is on making money by trade, not by making money literally by creating it.

Prices are set by "supply and demand." There is no concept of a fair price. To win the game, a player must charge as much as possible when selling and pay as little as possible when buying, again violating reciprocity.

Tax penalties were not originally in the game. Why would they be needed in an economy with everything "privatized"? They became necessary because some players coped with the stress of competition by withdrawing from the action. They simply produced whatever resources they could on their own and accepted the consequence of a reduced standard of living represented by their low city wealth score, like "hippies" in the 1960's who retreated to communes. Taxation was needed to pressure players to stay in the game, also a recognizable feature of a capitalist economy.

Full production and full employment rules were also needed to keep players in the game. They imposed a tax penalty if a player failed to get all five resources for a city and failed to employ everyone in the city in every generation. Since city wealth scores were not calculated, all a player needed to keep a city alive was Food. By imposing a tax for any resource not obtained and for any people left with free time, players were pressured to stay in the game or lose everything because they would soon run out of money to pay their taxes. They could also lose everything in bankruptcy and foreclosure by the bank when they could not pay interest and principal on their loans.

To win Making Money, a player must violate every principle of cooperation: 1) Sell by misleading claims instead of honest communication, 2) Duplicate (compete) instead of specialize, and 3) Hoard instead of reciprocate.

Free time was discouraged. As cities are educated to the Privileged skill level, fewer workers are needed to produce resources. Instead of this being a benefit in more free time, it creates an unemployment problem. To a capitalist, free time is a waste of time. In the game, players dealt with the problem by building unneeded links of transportation and by producing unneeded resources, also observable features of real life capitalism. How else can you make money, if people already have everything they need and want?

In the end, the banker always wins, well, almost always. The exception is when the banker acts like the banker in Monopoly, where the banker is not in the game. Such a banker assumes that the game is fair. Since having the banker own all the money is unfair, they do not believe that the rule is what it is. However, Making Money is not meant to be fair; it is meant to simulate real life capitalism.

The role of "banker" is an oversimplification. Bankers as we know and see them in bank offices are intermediaries. They are working for the persons who own bank stock and who expect to receive dividends on that stock. They are also working for depositors into savings accounts who want interest on their deposits. Call both stockholders and savings depositors the actual creditors. To include them in the game would have meant having a player or two sitting on the sidelines, periodically nudging the banker-player to be sure to collect profits from debtors. This could be done in a simulation to show the difficult position of bankers trying to find debtors to satisfy what are, by existing bank rules, the insatiable demands of stockholders and savings depositors.

Banks rely on demand deposits, not savings, to create more debt to draw the income to try to meet those demands. In the preface to his *Principles of Banking*, Eric Compton notes the difficulty created by the shifting percentages of demand deposits and interest bearing accounts.

Traditional commercial banking, which relied on interest-free demand deposits (checking accounts) as its primary source of funds, is a thing of the past. Every one of the nation's 10 largest banks now shows over 75 percent of its deposits in the form of interest-bearing accounts, a significant change in the basic deposit structure that affects every aspect of funds management and bank profitability (1991: xi-xii).

This squeeze on bankers has existed throughout United States history and has only grown worse over that time. (For more on the debt problem, see the free Smashwords edition of *The American Iceberg: Debt, Inflation and Money* <http://www.smashwords.com>)

The Election Option lets players try using government to win the game. It never works because winning an election is decided by votes plus money, similar to real life capitalism. The banker in the game can win any election by creating enough money to outweigh any number of votes. Elections are not democratic; they are plutocratic – the player with the most money, which means the banker, can always win. Winning an election does not change much of anything, like in real life, because the government does not control the most important power of modern government, the money supply.

How do students feel about Making Money? Most do not like it; the banker usually loves it. It is fascinating how the banker can feel good about a position he or she

received by a roll of dice. Some students have more fun playing Making Money than Barter and Majority Rule. Most do not. When asked which game they liked least, Making Money wins by a landslide.

People who think making money drives the ideal economy should play this game. Just as it is good for students to experience positive features of socialism, it is also good for students to experience and be able to identify negative features of capitalism.

However, capitalism has a positive feature; it uses money. Money overcomes the limits of barter. A player can sell a resource to another player who has nothing the first player wants and, with the money obtained from the sale, buy what he wants from a third player. The sale and purchase can occur at different times, between cities in different locations, at different prices.

Money also decentralizes decisions, relieving the congestion of trying to make all decisions by voting as in Majority Rule. Players can decide what to do without getting permission from other players through a vote or consensus. Money gives players freedom, to its defenders, capitalism's paramount virtue. Using money is the good feature of Making Money.

Although city wealth is never calculated, as is also true in real life capitalism, only 45 percent of students reported having wealthy cities, down from 66 percent in Barter and 69 percent in Majority Rule. Fewer than half, wealthy: more than half, dealing with what is left.

The average percent of yes is 45, so capitalism gets a failing grade of F.

A protest that capitalism is better than reflected in an F grade can be made by arguing that almost half of the cities were judged wealthy. While true, it ignores the cities that were not wealthy. The game shows that outcomes are interdependent. As such, we should not ignore failures just to make capitalism look better than its overall grade shows it to be. That would be like a student protesting that they should be graded only on the questions on an exam that they answered correctly.

Simulation highlights both advantages and disadvantages of each system, suggesting where changes might improve performance. It is this process of simulation that led to autonomous cooperation, called simply, Autonomy. The key feature of Autonomy is that it corrects the defects in money that cause capitalism to do so badly.

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Autonomy: The Expert, Tournament Game



The game name, "Autonomy," more descriptively, is Autonomous Cooperation, meaning that its rules allow players to make decisions on their own, but in ways that are beneficial both to themselves and to other players. You could say that Autonomy is "reformed" capitalism. More precisely, it is money capitalism transformed into real capitalism, where the most important form of real capital and the game goal is a healthy and competent population.

The objective in Autonomy returns to the objective in Barter and Majority Rule, which is to obtain all five resources for each city while employing as few people as necessary to do so. The goal is to get 50 resource points and as many of 20 free time points as possible, 70 maximum total, by the end of the third generation, which is the end of a game.

Money enters the game as equal shares to each player, 20,000 units of money, where one unit equals the work of one person for one generation. The money is interest-free and debt-free. It is simply the money necessary for transacting business. No additional money enters the game in the second and third generations.

A new feature of Autonomy is Cash Balance Points. At the end of the first and second generation, players receive one cash balance point for every 1,000 money units they have more than the 20,000 with which they started the game. For example, a player with 22,000 units at the end of the first generation would receive two cash balance points. These points compensate the player for the 2,000 people they employed for which they got money but lost free time points.

A player who has 18,000 units of money at the end of the first generation, loses two cash balance points, which compensates for the 2,000 people he or she did not employ for which they gained two free time points. Cash balance and free time points compensate for each other. The same calculation is done at the end of the second generation.

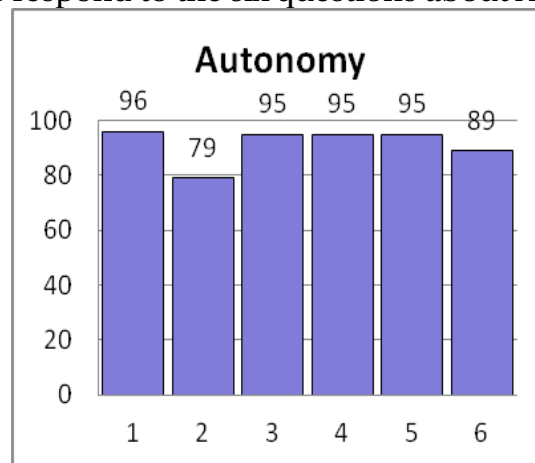
However, at the end of the third generation and the end of the game, a player loses cash balance points for having either *more* than 20,000 units of money or *fewer* than 20,000 units of money. The goal of having the same amount of money at the end of the game as at the start encourages players to share the work. Otherwise, a player can end the game with more money than other players by hoarding the work. There may be money inequalities during the game, given that randomly drawn Skill Cards at the start of a game determine whether a city is Primitive, Pioneer, or Privileged. Ending

the game with the same amount of money as at the start is an incentive for raising all cities to the Privileged level.

Prices in Autonomy are set at cost; the number of persons who produced a resource equals its price to buyers. If 6,000 people produced enough food for three cities, the price for one unit of food is  $6,000/3 = 2,000$  units of money. So, when a player buys food at 2,000 units of money, the player whose people produced that food is paid the equivalent of the 2,000 units of work they did to produce it. All prices are set by the number of people who did the work for a generation, which is equal to the units of money.

Decisions on building lines of transportation and on educating cities are made by voting, as in Majority Rule, and players pay equally either in employing people or with money. All gain the benefits, so all pay for them.

So how did students respond to the six questions about Autonomy?



Students judged Autonomy as shown in the Autonomy bar graph.

1. Did you share the work? 96% yes, letter grade A.
2. Did you share the wealth? 79% yes, letter grade C.
3. Did you communicate? 95% yes, letter grade A.
4. Did you specialize? 95% yes, letter grade A.
5. Did you reciprocate? 95% yes, letter grade A.
6. Did you have wealthy cities? 89% yes, letter grade B.

The average of 91% yes gives Autonomy an overall grade of A.

Autonomy was the most cooperative with one exception; on sharing the wealth, Majority Rule received 82 percent to Autonomy's 79 percent (Q2). This low percentage for sharing the wealth indicates a subtle but important difference between Majority

Rule and Autonomy. Sharing in Majority Rule is to all cities regardless of whether or not people in a city did anything to earn that share; in Autonomy, people in a city must *earn* their shares. This difference would account for Autonomy being judged by students as sharing the wealth less than Majority Rule.

On sharing the work (Q1), communicating (Q3), specializing (Q4), reciprocating (Q5), and having wealthy cities (Q6), Autonomy got 96, three 95's, and 89 percent yes. This makes Autonomy the most successful game.

When asked which game they like best, students overwhelmingly chose Autonomy, although Barter received many votes. Students who liked Barter best said it is easier to play than Autonomy. They found calculating prices, taxes to pay for transportation and education, and cash balances in Autonomy more difficult than simply bartering.

Why did Autonomy receive such positive responses?

Autonomy uses money, so trade is not limited by the four conditions of barter. As in Making Money, a player can sell a resource to another player who has nothing the first player wants and buy what he wants from a third player. The sale and purchase can occur at different times ("generations" in the game) between cities in different locations at different prices.

In contrast to Making Money, in Autonomy selling prices are set at *cost*, measured in workers employed per unit produced. If it took 1,000 people to produce enough food to feed a city, then 1,000 is its cost and selling price. Therefore, resource sales and purchases are perfectly reciprocal (except that the smallest money note is 100, which requires rounding for some selling prices).

Autonomy works more efficiently than Majority Rule because voting is limited to decisions about transportation and education. The costs are shared, as are the benefits, so the decisions are shared as well. For all other decisions, Autonomy is a free market game. Players can discuss which resources they plan to produce, but they are free to make their own decisions and are free to buy from and sell to whomever they want.

Privileged workers are more efficient than Pioneers and Primitives, so their selling prices tend to be lower. Because Autonomy is a free market system, players tend to buy the cheaper products of Privileged workers. Because Pioneers and Primitives have difficulty selling their more expensive products, they have an incentive to increase

their efficiency through education. Privileged workers also have an incentive to help Primitives and Pioneers become more efficient so their selling prices will be lower.

Its name, "Autonomy" means self-management in the same sense that parents want their children to grow up to be autonomous adults. Each player is responsible for his or her own cities. Their city wealth score at the end of the game is what they get, not the average of all cities as in Majority Rule.

*Auto-* signifies personal competence and responsibility. Autonomy is also social because autonomous individuals can think and act cooperatively. "Autonomous cooperation" signifies the personal responsibility aspect of Autonomy and the cooperative nature of participation.

Autonomy could also be called "economic democracy." The Making Money game shows that capitalism is not democracy; it is plutocracy – rule by those with the most money. In Autonomy, the money is democratic; money is issued like votes. Each player starts with an equal amount of money, debt-free and interest-free, and prices are set by the democratic standard of equal work time. Each player's people receive equal pay for equal work, measured by workers employed. Buying and selling is, therefore, reciprocal, each receiving the exact equivalent cost of what they give up.

Autonomy simulates an economic system that combines the good aspects of barter, capitalism, and socialism so that everyone can be wealthy with plenty of free time to enjoy life. A fifth grader who played Cooperation® expressed the spirit of Autonomy when he said that he liked the game because, "Everyone can be privileged."

One might ask, if Autonomy is so good, why does it earn only 91 percent yes, barely an A?

Factors that limit city wealth in Autonomy, and all the other games as well, include chance outcomes from rolling dice to produce food, fiber, and wood and drawing mining cards to produce metal and fuel. Players do not control the outcomes. Food production could yield as little as one food, enough for one city, because the smallest number on dice is one. In the computer game, the yield can be zero. Mining cards include the outcomes of zero yields and a mining disaster that costs a player workers to rescue trapped miners. These chance factors that represent uncertainties in real life affect outcomes in all the games.

In addition, outcomes in Autonomy, like in the other games, depend on player decisions, which vary results, such as where to locate a city and which, when and how much of a resource to produce. In a university class setting, attendance also varies,

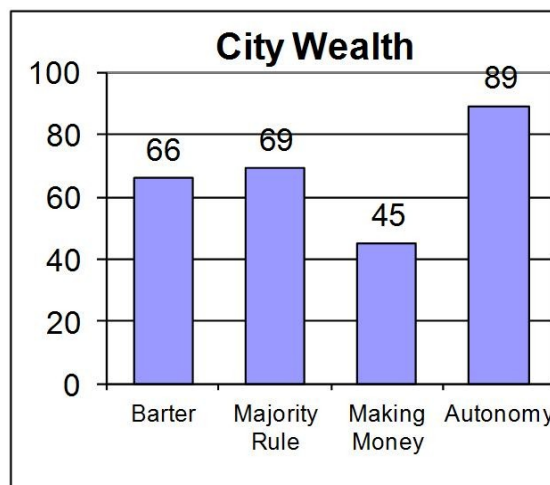
which affects how well students understand the rules. Students also vary in whether or not they read the rules before coming to class. In an actual economic setting, similar factors affect the quality of decisions made. Farmers must decide what to plant, when, and how much. Competence varies among people of different occupations, etc. That Autonomy received "only" 91 percent is a reminder that we do not control everything that affects our standard and cost of living. We control only the rules. From that limit to our power, the grade each type of economy received tells us comparatively what we can expect from each one.

The next table summarizes the good and bad features of each game.

**Cooperation® Game Comparisons**

	Good	Bad
Barter	Trade raises the standard of living of both partners.	Four conditions of barter trade are difficult to meet.
Majority Rule	Group decision-making improves decisions.	Oligarchy, suppression of dissent, and weak individual accountability
Making Money	Money decentralizes decisions, increasing freedom.	Hoarding money forces some to fail.
Autonomy	All the above	None of the above

Judging by city wealth, Autonomy is best and Making Money worst.



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## II. From Autonomy Game to Economic Policy

Given the positive results obtained through simulation, it is worth considering how features that make Autonomy successful could be translated into economic policy.

The features that make Autonomy successful are:

1. Game objectives: meet human needs with the least labor,
2. Issue money debt free and interest free,
3. Price at cost measured in work time,
4. Share costs of transportation and education, and
5. Require all players to have an equal amount of money by the end of the game.

Each of these could be translated into policy at all levels: personal, family, community, corporate, urban, statewide, national, and international. The following comments suggest how.

### 1. Game Objectives: Meet Human Needs with the Least Labor

The first game objective of Autonomy is to obtain five resources for each city: food, fiber, wood, metal, and fuel. These represent basic human needs for food, clothing, housing, machines, and energy to run the machines.

You and I judge our success every day by what we eat, what we wear, where we live, the tools and machines we use, and our access to energy to power our machines. We judge our success by the amount of money we have available to buy those resources. We know that money is a means to the end, not the end itself. We can't eat money.

Translating that measure to a city, a corporation, a state, a nation or to the earth at large means measuring economic performance by the number and percentage of people who have adequate food and water, clothing, housing, tools, and fuel. You can think of other resources as well. The goal would be that all people have their needs met.

The second Autonomy game objective is to obtain resources employing the least labor. Translated to policy, we would look for ways to increase free time. It begins by changing our interpretation of GDP. Today we call it Gross Domestic *Product*, implying that it measures value and that GDP should grow forever, the faster, the better. However, GDP is the total of money selling *prices* of goods and services produced in a year. GDP measures price. Once needs and wants are satisfied, we

should *reduce* Gross Domestic Price, not continue to increase it. Products can continue to add value to an economy while GDP goes down by maintaining existing real capital, for example, housing and other infrastructure.

Free time increases in Autonomy because the transportation built by the first generation remains for use by the second generation, and surplus resources produced by the first and second generations remain for use by the second and third generations. Similarly, durable goods included in GDP with proper maintenance should lessen the work of each succeeding generation.

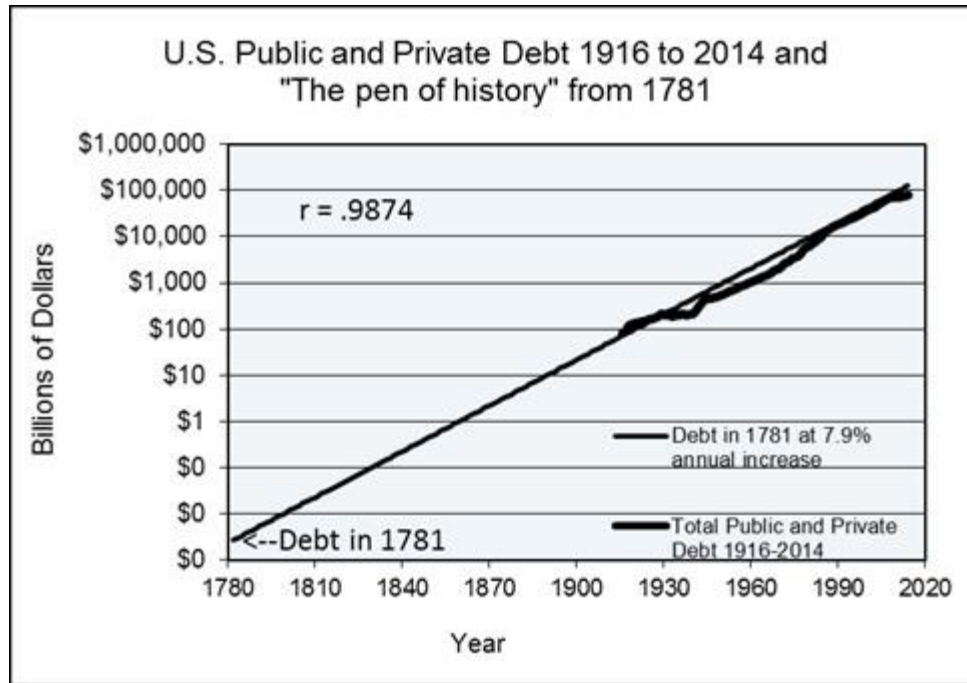
Translated to policy, we could reduce GDP and achieve full employment by reducing the average number of hours that people work by the rate of unemployment. If the average workweek is 40 hours and unemployment is five percent, we could reduce the average workweek five percent to 38 hours. Initially, the reduction might increase efficiency rather than reduce unemployment. However, further reductions would soon see jobs open up for the unemployed. This policy could be applied without reducing pay for most people by instituting a policy to limit hoarding work and money similar to the Autonomy “share the work” rule.

## 2. Issue Money Debt Free and Interest Free

Autonomy is successful because money comes into the game debt free and interest free. Making Money fails because money enters as loans that cost interest. This puts all players into a debt trap, including the banker who must maintain it.

The United States has been in the debt trap for its entire history. Recent increases in total public and private debt, not just Federal debt, have become so large that they dwarf earlier increases. Because the US money supply is based on debt, total public and private debt grew from \$2.5 million in 1781 to \$78 trillion in 2014 – all due to compounding interest. When plotted on a logarithmic scale, it is clear that debt has been growing just as it would in the Making Money game if the game were to continue for 234 years.

A writer in 1790 warned: “The pen of history will detect and expose the folly of the arguments in favor of the proposed system as well as the iniquity.” The graph below shows the pen of history doing exactly what that writer in 1790 predicted. We can understand from Making Money why that writer called the system of debt-originated money not only “folly,” but “iniquity,” that is, evil, as well.



The line representing the initial debt as reported by Superintendent of finance at the time, Robert Morris, in 1781 of 2.536 million increased 7.9 percent as it would grow compounded annually, intersects actual total public and private debt from 1916 to 2014 almost perfectly,  $r = .9874$ . Unbelievable as that might seem, it is fact. The root of our present debt problem in 2016 lies in 1781. For more on this history, although that book traces the origin of debt only to 1790, see *The American Iceberg: Debt, Inflation and Money*, a free ebook available in a variety of formats from:

<http://www.smashwords.com/books/view/145644/>

Another, perhaps better method of money creation than used in Autonomy, would be to *pay* people to produce public goods like transportation and education rather than simply to give it to them. The government could issue that money, debt free and interest free. This would get the money into circulation and add to the real National Treasury, which is a competent population with a well-maintained infrastructure.

### 3. Price at Cost Measured in Work Time

In Autonomy, price is set at cost measured by the number of people whose labor produced a resource, built a line of transportation, or educated a city. The calculation is people employed divided by units produced. Translated to policy, goods and services would be priced by the simple math of dividing work time by units produced.

The United States government once published precisely this kind of information. For example, it reported that in 1950, 28 hours of labor produced 100 bushels of wheat



(*Historical Statistics of the United States Colonial Times to 1957*, page 281). The government could report such information for all the goods and services in the economy with international comparisons.

#### 4. Share the Cost of Transportation and Education

Autonomy succeeds where Majority Rule flounders because Autonomy limits the use of voting to public goods, transportation and education. It is clear that collective ownership of highways paid for by taxes is more effective and efficient than private ownership of sections of roads with tolls at each end of each section. It is also clear that segments of roads for a large area must be coordinated. Translated into policy, lines as well as forms of transportation would be planned with citizen input and be paid for by taxes and/or user fees.

What of people who do not own cars or who do not travel? People who do not use roads benefit from their existence. How else would food be delivered to stores, and health, fire, and police help be available?

While education benefits the person who is educated, it also benefits the persons served by the person with the education. For example, we want our doctors and nurses to be well educated. The same should apply to all occupations. Education is like roads; we all benefit directly or indirectly and we should all pay to optimize education for everyone.

#### 5. Require Players Have Equal Amounts of Money at the End

The Making Money game fails because money is hoarded. We see this in real life in the accumulation of personal money incomes and wealth far beyond any reasonable level of human need and capital accumulation. Consider that a wage of \$50 an hour, more than double what most people receive, comes to \$2,000 for a 40-hour week and \$100,000 for a 50-week year. At \$50 per hour, one million dollars equals 10 years of work; \$10 million equals 100 years of work; \$100 million equals 1,000 years of work. To convert millions to years, just add a zero.

Forbes magazine lists the net worth of the five richest people in the United States in 2015 as follows:

Bill Gates: \$76 billion = 760,000 years at \$50 per hour

Warren Buffett; \$62 billion = 620,000 years

Larry Ellison: \$47.5 billion = 475,000 years

Jeff Bezos: \$47 billion = 470,000 years

Charles Koch: \$41 billion = 410,000 years

<http://www.forbes.com/forbes-400/list/#version:static> The list goes on for 387 more names of billionaires in the United States in 2015.

Some will say that these men deserve all that money, but consider where the money came from. People had to buy their products. Put another way, the net worth of these people reduced the net worth of the people who bought their products. When one person makes money another person loses money. The money flow process is zero-sum. Certainly, customers receive goods and services for that money. However, the question is how much money does the seller deserve to receive for those products?

Bill Gates' net worth equal to 760,000 years of income at \$50 an hour tells us that the prices charged for Bill Gates' goods and services was in the aggregate hugely excessive. If his net worth were \$10 million, that would be equal to 100 years of income at \$50 an hour, far more than most people earn in a lifetime. Today, limiting net worth to \$10 million seems absurdly low. Yet it is the unlimited accumulation of money to thousands of millions that is absurd. Imagine all the money customers would have had for other purposes had they paid only the cost of products. Imagine how much more secure they would be. Instead, we have some people worth hundreds of thousands of years of income while others struggle to pay their bills, probably blaming government and taxes for their distress when in actuality it is the fact that we have no upper limit for income and net worth.

We have a minimum wage; we need a maximum one. Nature limits human life to about 100 years. If a person worked for 100 years, which is about twice as many years as normal, at \$50 per hour, they would earn \$10 million. Therefore, it would be reasonable to limit total lifetime income to \$10 million or less.

What about a person's descendants? Would a person not be able to leave an inheritance to them?

We need to ask, who are a person's descendants? Whom will our children marry? Their children will be our descendants. Whom in turn will our children's children marry? We will have more and more descendants, generation after generation and we cannot know in advance who they will be. So when we feel concern for our descendants, we should feel concern for far more people than our direct relatives today. Our concern should extend to all our potential descendants plus all the people upon whom our descendants' well-being will depend. Our family, ultimately, is the Human Race, our home, Spaceship Earth. Therefore, the question is not whether or not a person would be able to leave an inheritance. The question is to whom they

should leave that inheritance. In general, the more people to whom they leave their inheritance, the better.

In Autonomy, there is no banker and no president. Their absence signifies the reduced need for either one. Debt-free interest-free money with work time its definite denominator to calculate prices gives every person an objective standard to judge prices. In an economy based on Autonomy, banks would do what they do now and what people think they are doing, helping people track their incomes and expenditures. Banks would not create money as interest-bearing debt. They would lend savings and charge borrowers a service fee for the work the bank does for its customers.

Government would exist to tax people to pay for public goods like education and transportation, to tax people who hoard work or money, and to increase the free time people have to enjoy life by periodically reducing the average hours of work for everyone. Government would become smaller, not because of "slash and burn" spending cuts now taking place, but because people would be able to control their own lives wisely, effectively and efficiently, without needing government to try to solve problems created by capitalism.

The word "economic" comes from the Greek *oikos*, meaning household and *nomos*, meaning management. Literally, economics means household management. Autonomy simulates genuine household management, autonomous adults treating each other as members of the same family, the same household, a household that is increasingly global. Autonomy's rules only need to be converted to policy.

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## Where is the Communism?

The game was not intended to simulate communism. In fact, we were not aware of having simulated it until recently. It is an odd oversight, given the major role that communism has played during the many years of the Cold War. How could it be that the lives of billions of people, the fate of all life on earth, has been put at risk over communism, yet who among us can say what it is? As often as I have heard the word, I have never had anyone define it for me. The reference has always insinuated that communism is synonymous with the former Soviet Union and China. Actions by the United States government in Latin America and elsewhere, Vietnam, for example, we were told were justified as necessary in the fight against communism, but what is it?

We need a definition before we can see where it occurs in the game. *The American Heritage Dictionary* defines communism as follows:

1. A social system characterized by the absence of classes and by common ownership of the means of production and subsistence. 2. a. A political, economic, and social doctrine aiming at the establishment of such a classless society. b. Often capital C. c. The Marxist-Leninist doctrine of revolutionary struggle toward this goal, the political movement representing it, or, loosely, socialism as practiced in countries ruled by Communist parties.

I am struck by the ambiguity of this definition. We are expected to believe that we are in a life and death struggle with Communism that justifies tens of thousands of nuclear weapons on aircraft, in submarines, and in silos on land, capable of obliterating all known forms of life on earth several times over. The definition above boils down to “the absence of classes.” The “common ownership” reference is socialist. It seems to me that the meaning to take from this dictionary definition is “resources shared in common by all.” If so, where in the game were resources shared in common by all?

Answer: when players shared resources among their own two or three cities. It was not barter – no trading of equivalents was necessary. It was not socialism – players did not deliberate with other players about which of their own cities would receive which resources, then vote on it. It was not capitalism – there was no buying and selling for money among a player's own cities. Players simply passed out the resources, so all their cities would have what they needed, very much like resources are distributed among the members of a family. We set the game up with free sharing of resources among a player's own cities simply to make the game easier to play. We were surprised to realize that we had also simulated Communism.

Would it work for an entire society to be Communist? No. Communism in a large group is the epitome of weak individual accountability. If people were free to take whatever they wanted from the stores like members of a family are free to take whatever they want to eat from the family refrigerator, there would be no individual accountability, no mechanism for ensuring that people shared the work as well as shared the wealth. Communism can work in a small family because the members can ensure sharing by observing who is doing the work and who is consuming the

resources. In a society of thousands and millions of people, it would be too easy for some people to take resources without doing anything to earn them.

There is a line in a documentary on the General Depression that exemplifies why Capitalists are against Communism. A tailor says, “The government giving away clothing is interfering with my business.” Capitalists sell goods and services to make money; communists give them away.

The lesson here is that every system simulated in Cooperation®: The Wealth of Nations Game® has advantages and disadvantages. In the final analysis, the system that works best for all of us will be a system that combines the good features of all systems and that avoids their weaknesses. That is what Autonomy does. Autonomy is more successful than the others because it combines good elements from all them.

How does autonomous cooperation apply globally?

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### III. Equalizing Currency Exchange Rates

The policies derived from the rules of Autonomy can be applied within any country. Doing so would raise living standards within those countries. When it comes to trade between countries, we need to address the problem of currency exchange rates.

Today, currency exchange rates are set like prices in the Making Money game, by “supply and demand” and “trial and error.” They could be made certain and equitable by equating them to equal work time.

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### Hour Money

Economist Alfred Marshall (1842-1924) saw the need for a more precise and stable standard for money than gold or silver as a condition of social progress, but he had no idea of what it might be.

As the arts of life progress (and indeed as a condition of that progress), man must demand a constantly increasing precision from the instruments which he uses, and from money among others; and he is beginning to doubt whether either gold or silver ... give him a sufficiently stable standard of value for the

ever widening range of space and time over which his undertakings and contracts extend (Marshall, 1929:53-54).

Work time is the precise and stable standard that can define money's value everywhere on earth. Every currency name easily translates into Hour Money. Here are examples for countries in the G20.

<b>HOUR MONEY</b> <b>A WORLD STANDARD</b> An hour of money for an hour of work					
Hour Dollar				घंटे रुपए	
Hora Real	Peso hora		小时袁	Jam Rupiah	
Hour	ساعة		時間円	Час	
Euro	الريال			рублей	
Hour Pound	Hour Rand		시간 원	Saat Lirası	

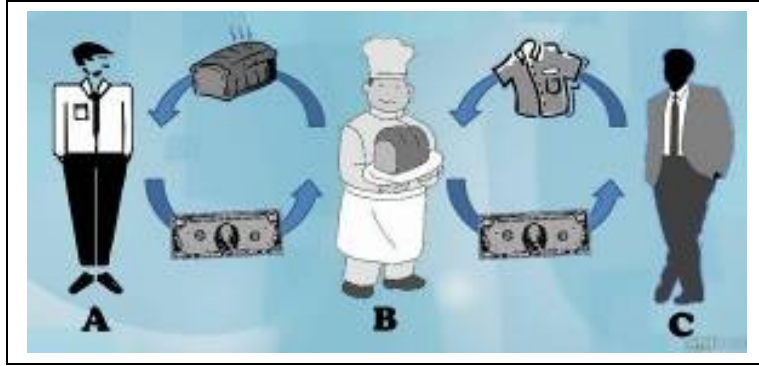
"It was by labour that all the wealth of the world was originally purchased."  
 Adam Smith 1776

A question that routinely comes up is, could some people be paid more, or less, per hour than others? The answer is yes. The beauty of money is that it gives people freedom to negotiate wages and salaries on a more objective basis than ever before. The person with the money can always pay someone they hire more than the standard rate and can always offer them less. The prospective employee can always ask for more or accept less. The difference from the present system is that each party to the negotiation would have a clear standard to work from, an hour of money for an hour of work. That standard would allow variations in pay but nothing like the extremes that exist today. Variations would need to be reasonable to the people involved. The metric system standardized weights and measures that are the foundation for global production. It is time to bring prices under the same kind of standard.

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### The ABC of Money

A complete money transaction always involves at least three people, not one, not two, but three. Person A gives B money in exchange for a good or service, in this example, bread.



Person B gives the money to C in exchange for a good or service, in this example, a shirt. Person A gave B money to give C so C could pay B for what B gave A. Fundamentally, money's job is to communicate reciprocity from A through B to C.

You see in this image, a three person segment of many similar overlapping segments. Someone gave A money so that A could be paid by B. C will pass the money on to D, so C can be paid for the shirt given to B. Money connects us in a great web of such three person transactions. We are not taught to understand money transactions in this way because we now live in a world dominated by Making Money capitalism.

Money, properly understood, is a medium of communication from A to C about B. That understanding is not communicated in textbooks based on capitalist make money economics. It cannot be communicated because it would destroy the rationale for money profit. If A is supposed to communicate to C what B has a right to be paid for work done for A, A should not underpay or overpay B nor should C overcharge or undercharge B. Money economics makes underpay, overpay, undercharge and overcharge, desirable; they produce money profit especially if they remain invisible. If pay received and price paid were identical as they should be, if person B is to be paid in goods the equivalent of what person B did for A, Price - Cost would equal zero. Money profit would be exposed as overcharge rather than fair trade.

It is revealing that make money capitalist economics praises free trade but says nothing about fair trade. Money capitalist economics praises supply and demand, trial and error, pricing and says nothing about fair prices, fair wages, and fair salaries. Money capitalist economics knows nothing of fairness. It would never admit fairness as a legitimate goal of money exchange because it would expose money profit as overcharge.

The implicit wage principle in Autonomy is that productive labor be paid an hour of money for an hour of work. Translating that principle to currency exchange rate

policy requires calibrating all national currencies in work time using an hour of work as the unit. Just like the meter is the same length everywhere, currencies everywhere would exchange for the same amount of work time, one hour for one hour.

A good method would be to divide a nation's GDP (understood as Gross Domestic Price rather than Product) by the total hours of work that produced it. For the United States for 2015, the calculation is as follows:

Dec. 2015

143 million employed at 2,000 hours each equals 286 billion hours

GDP \$18 trillion divided by 286 billion hours equals \$63 per hour

Every currency in the world could be calibrated to an hour of work by the same simple math.

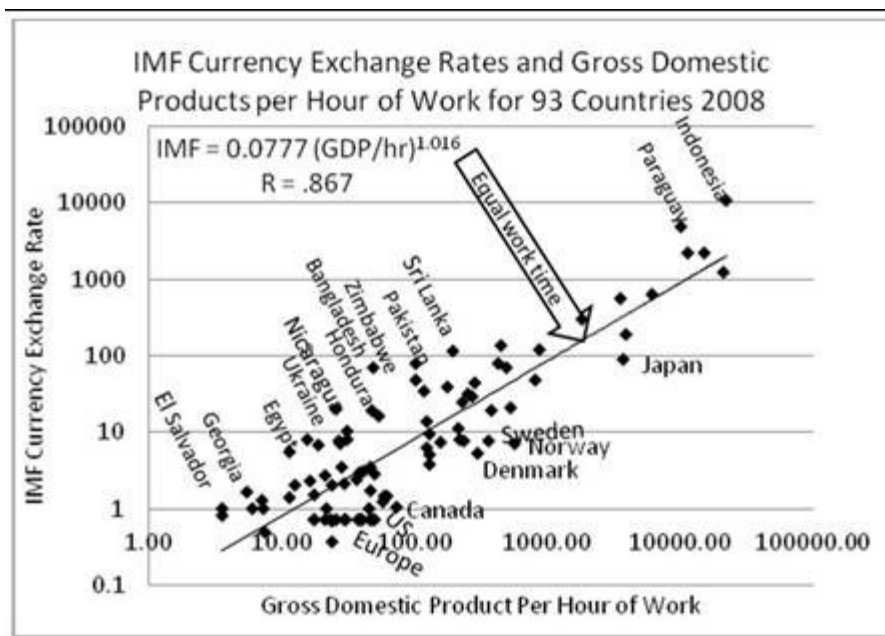
There are two other measures of "central tendency," as statisticians call them, the median wage per hour and the modal wage per hour, that could be used. Those would calibrate to a lower wage per hour. The advantage of these latter two is that they would require less wage adjustment. Their disadvantage is that they are not available for most countries whereas the data to calculate wage per hour with GDP is available for most countries.

The International Monetary Fund has published the data needed for the calculation since 1948. That data can be found on the country pages of *International Financial Statistics*, the IMF's monthly publication. For the graph below, I used line *ae*, currency exchange rate per US dollar, line *67e* for number of persons employed, and line *99b* for Gross Domestic Product in that country's own currency.

We usually see GDP already converted to United States dollars, but that is not appropriate. The dollar is as undefined as all the other national currencies, so it makes no sense to define something with something that is itself undefined. It does allow, however, the kind of less than honest communication that we see in the Making Money game.

Currency exchange rates published by the International Monetary Fund in *International Financial Statistics* have correlated with GDP per hour as much as 80 to 90 percent since the IMF has been publishing that data. The centerline of best fit in the chart below shows equal work time to be the center of gravity of those currency exchange rates. If all currencies were on the centerline, all currencies would exchange for equal work time.





Currency exchange rate disparities account in large part, if not entirely, for the persistence of poverty in many countries. Countries whose exchange rates put them above the centerline are paying more work time for the currencies of countries whose exchange rates put them below the centerline. (For more detail, see Blain, 1996, “Defining Exchange Rate Parity in Terms of GDP per Hour of Work,” *Applied Behavioral Science Review*, Vol. 4, No. 1, pages 55-79).

To express the value of a currency exchange rate in minutes of work, divide that exchange rate by GDP per hour and multiply by 60.

$$\frac{\text{Currency Exchange Rate} \times 60}{\text{GDP per hour of work}} = \text{Minutes of Work}$$

This calculation shows that disparities are much larger than they appear to be on the graph, which is logarithmic scale. For example, Pakistan’s exchange rate in 2008 equaled 46 minutes of work compared to the euro's exchange rate of a bit more than one minute of work. The exchange rate for Pakistan's money cost Pakistanis 46 minutes of work, which purchased for them only one minute of Europe's work.

The country first to adopt an hour of work as its currency denominator would lead the world in adopting a metric for money the way that France led the world in adopting metrics for all other weights and measures. The Hour would modernize money and improve economic thinking and policies.

As you saw in the rest of this report, the Hour on money would move us along the path to autonomous cooperation. Time itself exemplifies autonomous cooperation with everything we do - when we wake up, when we schedule meetings and events with other people. Time Money would facilitate autonomous cooperation in the same way. We would be able to act autonomously and fairly as never before.

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## IV. How We Get There

Our lives are guided by our theories. The theory guiding the economic thinking of our leaders today is simulated in Making Money. It is also simulated by Monopoly, the game that taught millions of people to be capitalists. There is only one winner in a Monopoly game. That is not the way to achieve global economic justice, harmony, and peace.

*Cooperation®: The Wealth of Nations Game®* teaches cooperation. There is no war option in the Cooperation game. The goal is peace. We have war because we prepare for war. To have peace, we must prepare for peace. We practice war with war games; we can practice peace with the peace game, *Cooperation®*.

So what can you do now?

You can play and encourage others to play *Cooperation®* to see that there is a free market money economy beyond and superior to capitalism. The key feature of Autonomy is that prices are set by work time.

The goal that I believe is most important for achieving global harmony is to make an hour of work the base unit for all the monies of the world. The institution now in the best position to make that happen is The International Monetary Fund. Advocating the hour in that institution requires that some of the thousands of economists working there come to realize that autonomous cooperation is the goal implicit in free market theory. The missing link in that theory is the reciprocity role of money.

The hour translates into every language and unites us all. Globally and locally, our behavior is governed by time. The visible hands that organize all our economic activities are those on the clocks around the world. It is time to bring money under the discipline of clocks as well. We work people by the hour; we need to pay them by the hour. We need to time money.

We talk about time and money together all the time. Now we can unite them, to benefit everyone with more accurate and, therefore, fairer prices at last.

You can tell your friends to download the computer game from <http://hourmoney.org> It's free.

Spread the word that an hour of money for an hour of work is the proper standard of a fair wage, with exceptions always negotiable. I can send you copies of Hour Money to pass out to your friends, family, and neighbors. Here is an example that I have been passing out.



You can design and print your own version to inform others of what we can do to improve the accuracy of prices.

I think of Hour Money as the Next Great Revolution similar to the evolution of language, writing, the printing press, and the Internet. Great Revolutions are those that enlarge our comprehension of reality. They are not violent; they are not destructive. They are peaceful and constructive. Hour money would promote that kind of Great Revolution.

We already have significant help. The American Monetary Institute supports government issued money <http://www.monetary.org> and, meeting in India in 2004, the Provisional World Parliament adopted an hour of work as the world money unit. <http://www.radford.edu/~gmartin/>. Their approaches differ in other ways from the rules of Autonomy, but they, like us, are advocating what they believe would be major improvements in human well-being.

Be active. Be part of the change you want to see.

Prepare for peace. Learn cooperation. It's about time.

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About Bob



**Courtesy of Adam Williams**

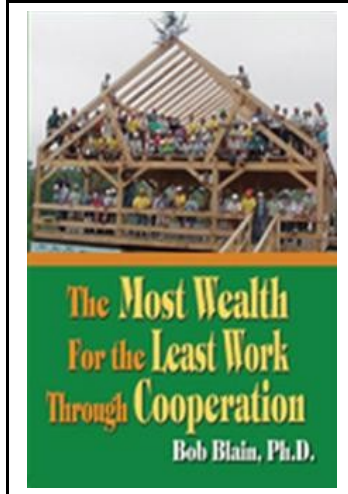
Bob did a year of graduate work at the University of Wisconsin-Madison, received his Masters degree in sociology from Harvard, his Ph.D. from the University of Massachusetts, then taught sociology for two years at The Ohio State University and 33 years at Southern Illinois University Edwardsville until retiring in 2001. He has published articles internationally including UNESCO's *International Social Science Journal* and the *Indian (India) Journal of Sociology* and has spoken on monetary reform in New Zealand, Australia, Poland, Libya and Togo in Africa and in India and at many national conferences including the American Monetary Institute.

As a graduate student and teaching assistant to Talcott Parsons at Harvard in the early 1960s, Bob began to recast Parsons' ideas into what became the information chain theory published in *Weaving Golden Threads*.

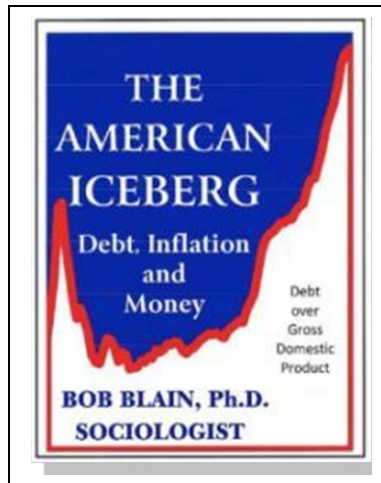
Cooperation®: The Wealth of Nations Game® evolved as a way to test what the information chain theory revealed about money, namely, that money is a medium of communication whose most important feature is undefined, namely, its unit.

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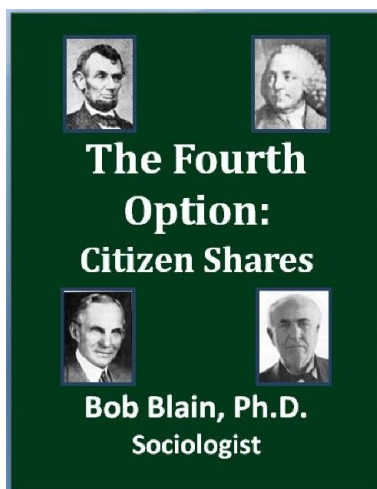
Other Books by Bob



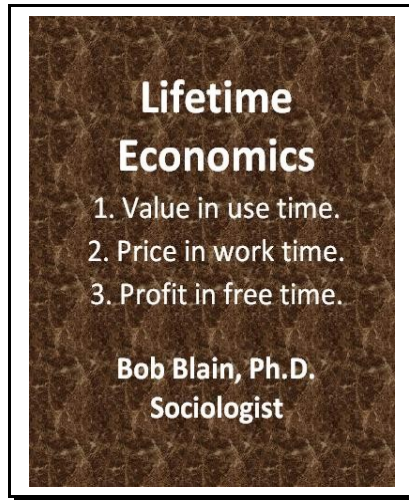
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