

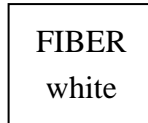
COOPERATION:®

The Wealth of Nations Game®



Blain and Gill ©2010

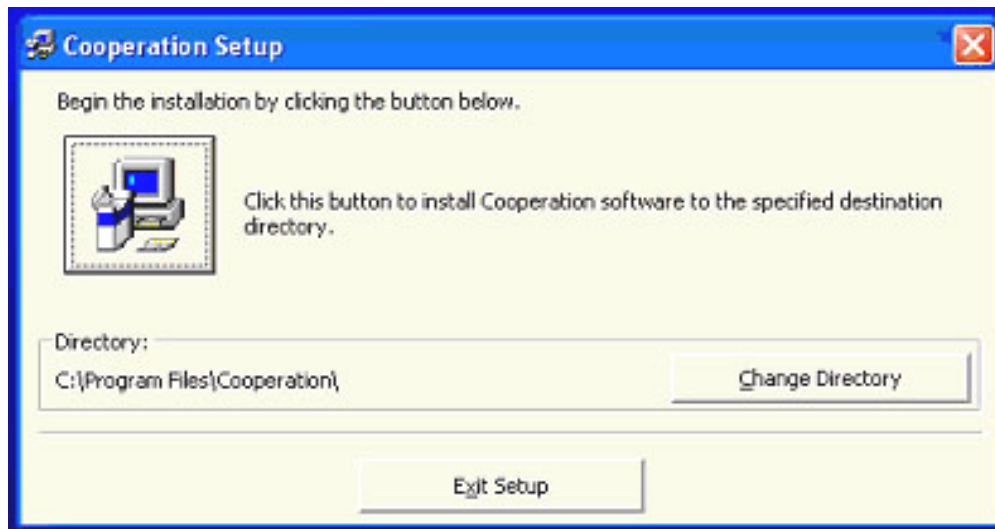
The game objective is to get five resources for each of your cities: food, fiber, wood, metal, and fuel. You get resources by employing people from your cities to produce them or by trading your surplus resources with other players.



Cooperation: The Wealth of Nations Game is more than a game. It's a simulator for comparing barter, socialism, capitalism, and a new system called autonomy that combines their strengths and avoids their weaknesses.

To Install Cooperation, Version 4

Download Cooperation: The Wealth of Nations Game from <http://hourmoney.org>. Open or Save the file. If you choose Save, notice where the file is saved because you will need to go to that location to unzip and install Cooperation. Double-click the Cooperation folder to unzip it, and then click the SETUP file.



To Play Cooperation

Go to Start, Programs, Cooperation, and click Cooperation. In a few moments, you will see the original game board. Along the bottom left of your screen, you will see game prompts that tell you your next step. There will also be tutorials that appear as you move from step to step. There are often several ways to perform the same actions. One way is to click on words along the left top of the screen such as "Game," "View," and "Action." These will reveal various options. Another way is to click on icons such as the white rectangle for a new game. When you place the mouse cursor over one of these icons, in a few moments a tool tip will appear to tell you what that icon does.

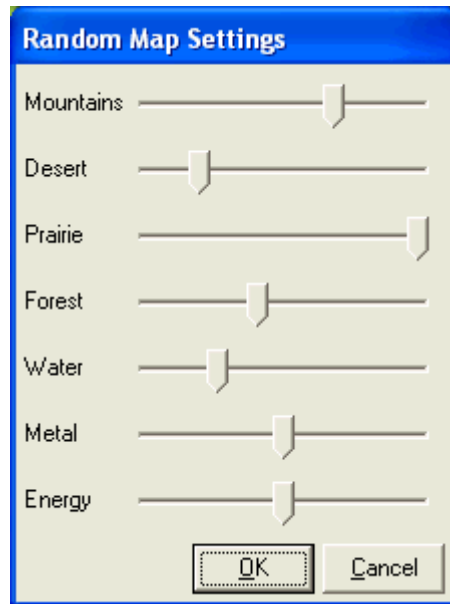


You can play on the map that shows the middle of North America or on a random map. If you choose the random map, you can change the terrain to experiment with different combinations.

Navigable waterways on the North America map are shown as blue rivers, lakes, and ocean. Red letters signify where metal can be mined, black letters signify where fossil fuels can be mined, and the small solid black hexagons signify where waterpower is possible.

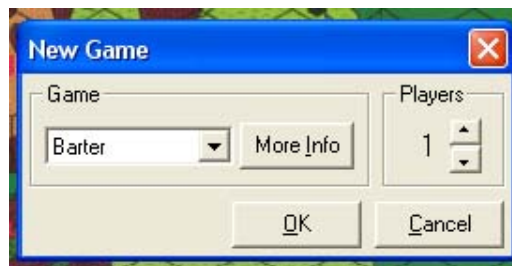
To produce a resource, you locate your cities in hexagons where those resources are available, and employ people in your cities who have the necessary skills to produce them.

To trade surplus resources between cities, you build lines of transportation between them. Lines may be direct or by way of other cities.



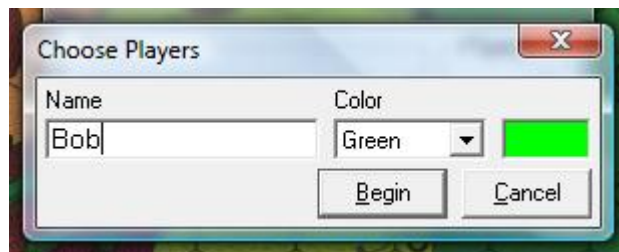
BARTER: The Beginner's Game

To begin a game, click on NEW in the upper left hand corner of the game screen. The New Game dialog box appears.



Click on More Info to learn about Barter.

Accept the default Barter as one player for your first game, click OK, enter your name, choose a color, and click Begin.



Select the map type for your first game, then click on SKILL CARD to determine the resources the people in your first city have the skills to produce and how many people will be required to produce one or two harvests. Skill levels are determined by chance at the start of a game, just as the social class into which each of us is born is a matter of chance. Thereafter, you can raise the skill level of people in your cities by employing some of them in education.

At any time during a game, you can access information about a city including its skill level by clicking VIEW and Show City Info in the menu bar.

After skill cards are drawn, a tutorial card appears to explain how to place your first city on the game board. Tutorials remain available in the Help menu. An icon for your first city will appear on the bottom left side of the game board. Primitive cities are represented by a teepee, pioneer cities by a log cabin, and privileged cities by a modern floor plan. Their color identifies the player responsible for that city.



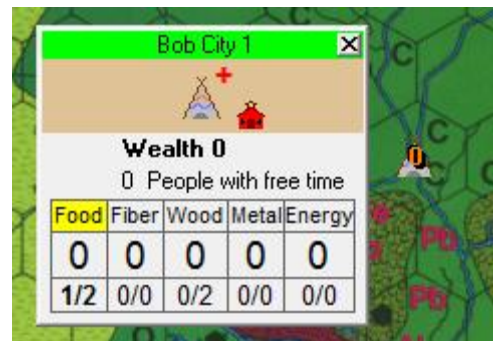
Click a city icon that you want to place

When you click on a city, the city icon becomes your cursor. Move it to where you want to locate your city. Click again and your city is home. You can change the location by clicking the city again and moving it to another location. However, you can only change city locations until you click Finish City Placement in the menu bar.



Turns do not matter in Barter. On a computer, you may be the only actual person playing the game. However, if several people are playing, each can do things whenever they are ready.

There are two different kinds of control panels. On the middle of North America map, when you place the cursor over a city, that city's control panel appears. You can keep that panel in view by clicking inside the banner across the top. You can click and hold to move the panel and you can close the panel by clicking inside the banner again.



The control panel tells you everything you need to know about a city. It tells you by color and name whose city it is. The city icon tells you the city's skill level. In this example, the teepee means it is a primitive city, which means it takes 10,000 people, half the city's population, to do one action. I clicked under Food for one harvest in the hope that I get enough to feed my city. I clicked the education icon and clicked my city twice to educate it. The red plus sign means that my city will be Pioneer in the next generation, if my farmers produce enough food to feed my



city. My Wealth score at this point is 0 because all my people had to work, leaving none to earn me Free Time points. However, food will earn me 10 Resource points.

The control panel for the random map fits within the city's hexagon. In this example, Frank has not yet done anything with his city 2 (his first city survived the first generation, so Frank now has two cities), but he could produce two harvests of fiber, one harvest of wood, one harvest of metal, and/or one harvest of fuel. The zeros next to the road and schoolhouse icons mean that he has not built any links of transportation or education. The negative sign on his Privileged city icon means his city will drop back to Pioneer in the next generation if he does not employ people to educate its children.



The 20k next to the person icon means that he has 20,000 people that he could employ. The -20 warns him that without food, his city will die and his city wealth score will be negative 20.

The yellow bar across the hexagon border means that his neighbor has built a link of transportation to Frank's city, so Frank could trade his neighbor for food if Frank has an extra resource and if his neighbor has an extra food.

You get 10 points for each different resource (max. 50) plus one free time point for each 1,000 people you do not employ (max. 20). You will have two cities in the second generation and three cities in the third generation. Your average city wealth score at the end of the third generation is the one that the computer uses to grade your performance at the end of the game.

You make Resource Production decisions by clicking in the cells of city control panels. Just as in real life, you will not know how much your workers produce until after you click the Finish icon. Yields will vary because of uncontrollable factors such as weather. It takes one yield for one city. You could get none or as many as eight.



To build transportation, click the transportation link icon in the menu bar. Links of transportation are built one at a time and require three clicks to build one link to connect two hexagons. First, you click on the city whose people will do the work. Second, you click on the location where the line will start. The first line will always be from the city whose workers will do the building. They may construct a link further away if they have a line of transportation that will allow them to travel there to do the work. Third, you click on the neighboring hexagon where the line will end.



Two clicks are needed to educate a city. First, you click the city whose people will be the teachers, then you click the city whose people will be the students. To educate another city, the two cities must be connected by transportation.

Transportation and education decisions cannot be undone except by pressing the ESC key before they are completed.

Decisions to produce resources can be done and undone until you click the Produce Resources command in the menu bar.



If your first city survives to the second generation, you will have the

additional step of sharing resources with your second city. You do that by clicking on the handshake icon and then on the arrows in the Barter box to move resources from one city to another. You will not experience the constraints of barter until you play as two different players. Then, you will not be able to share a resource with a city of another player unless they have a resource to trade in exchange.

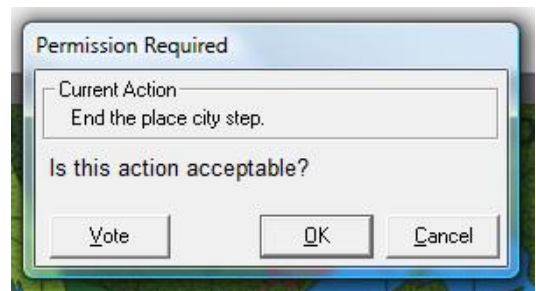
Barter continues by repeating the same series of decisions for a second and third generation. Scores at the end of the third generation are graded so you can gauge your performance in a familiar way. The grade also gauges barter as an economic system. How well you do depends not only on your decisions; it also depends on the rules of the game!

Play Barter several times with two players then with three. While you can play the game board version of Cooperation with up to six players, more than three players with the computer version gets too complicated and crowded.



MAJORITY RULE: The Socialist Game

In Majority Rule, the basic rules are the same as Barter except that everything is owned collectively and individual players can do nothing without obtaining permission from the group in the form of a yes majority vote. You vote on all decisions: where to locate each city, which resources each city will produce, which cities will build transportation and where, which cities will do the educating and which cities will be educated, and finally, which cities will receive which resources. As one person playing on the computer for up to three persons, you will need to cast votes for each of them. However, the permission box gives you the option of clicking OK instead of voting. Do you think you will use it?



The score that counts in Majority Rule is the wealth of the nation as a whole which is the average wealth of all cities.

MAKING MONEY: The Capitalist Game

Making Money is similar to Monopoly. Everything you do in this game should be to make money. The goal is to be the player at the end of the game with the most money. Nothing else counts. Everything is owned by individuals: cities, resources, roads, and schools. You charge other players whatever you can get them to pay when they buy resources, use roads, or want education.

When you start a new game, go to the View menu and click the Money option. You will want to watch the money as the game progresses. You can move the money window by dragging its title bar.

When you are the only person actually playing Making Money on the computer, you will have to change allegiance as you play for one player, then another. Do your best to win for the player that you are playing for at the moment.

One difference from Monopoly in Making Money is that the banker is a player. The computer selects one player at random to be the banker. Unlike Barter where any player can do things whenever they want or in Majority Rule where voting decides everything, in Making Money, players must take turns. The computer decides the order of play at the beginning of each generation.

You will also notice a new button on the menu bar, one with a dollar sign on it. Click that button to borrow money from the banker. To borrow, you must be connected to the banker by lines of transportation. Loans cost 10 percent interest, due at the end of each generation. You can repay loans at any time. Interest and money repaid count as the banker's money for winning the game. Players unable to pay interest at the end of each generation and unable to repay their loans at the end of the third generation lose their resources, which are then auctioned to the highest bidder. Players unable to pay taxes also have their resources auctioned to the highest bidder.



Taxes

The government collects a \$1,000 tax as a penalty for each resource you fail to get for a city. It also collects a \$100 tax as a penalty for each 1,000 people you fail to employ.

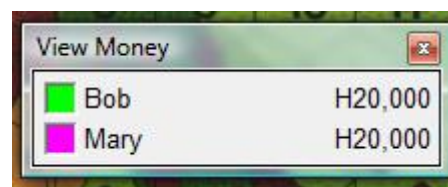
The Plutocracy Option

You elect a president who decides who gets the government money. This includes taxes plus money spent on the election. You vote people plus money. If a player has all 20,000 people in a city vote for a particular candidate and spends \$10,000 in money, the total vote is $20,000 + \$10,000 = 30,000$ votes. The player who gets the most votes wins.

AUTONOMY: The Expert Tournament Game

The goal of Autonomy, like Barter and Majority Rule, is city wealth, getting the five resources (50 points) with the most free time (20 max. one for each 1,000 people not needing to work). In addition, you get Cash Balance Points explained below. The score that counts is city wealth at the end of the third generation.

A key improvement of Autonomy over Making Money is that money has a proper standard unit, work time. In the game, the time scale is workers for a generation. In real life, it would be an Hour of work. This change helps money do a better job of “household management,” the literal meaning of “economics” (from Greek *oikos* = household, *nomos* = management). The H20,000 stands for the work time of 20,000 people. You may call the money “hour dollars,” or whatever your national currency happens to be.



When you pay hour dollars to other players, you are giving them IOU's that they will use to buy resources and pay their share of transportation and education costs. In this way, money bridges the barter gap between producing and receiving goods and services in a socially fair way, equal pay for equal work. The H20,000 to each player at the start of a

game is the only money that enters the game. It is not a loan, is not paid back, and costs no interest.

All prices are costs. No supply and demand. The computer calculates prices for you. If 3,000 people produced enough food to feed 5 cities, then the computer calculates the cost of each food as $3,000/5 = H600$. Food for one city cost the productive work of 600 people. Therefore, the fair price of each food is H600 hour dollars.

Although there is no bargaining over prices, there is a free market. Players can buy from and sell to whomever they want. Privileged cities will generally have lower selling prices than pioneer and primitive ones, so you can buy from the most efficient producers.

Order of play does not matter because Autonomy is cooperative, not competitive.

The socialist part of Autonomy is when you vote on building transportation and educating cities. You pay an equal share of their cost because everyone benefits from them.

Cash Balance Points. At the end of the first and second generations, the computer will *add* one cash balance point to your score for each H1,000 that you have above the H20,000 you started with. These points compensate you for the free time points you lost by putting people to work.

The computer will *subtract* one cash balance point for each H1,000 below H20,000. These points compensate for the free time points you gained by using money to buy resources instead of putting people to work.

However, at the end of the third generation, you will lose cash balance points whether you have more or less than H20,000. This rules encourages players to share the work as well as the wealth.

From Game to Policy

You may want to play all four games before you read this next section. It explains the significance of the differences among the four economic systems that Cooperation: The Wealth of Nations Game simulates and how game features would translate into policy.

The features that make Autonomy superior to barter, socialism, and capitalism are:

Game objectives,

Pricing,

Money creation,

Sharing costs of transportation and education, and

Income limits.

Let me explain how each of these could be translated into policy.

1) Game Objectives

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

We 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. Since money gives us access to these resources, we judge our success by the amount of money we have to buy them. However, money is a means to the end, not the end itself.

We see money as an end in itself in the obsession with the Stock Market and returns on investments. It is thinking that the price of stocks and bonds reflect real wealth when they reflect only money numbers. The same can be said of Gross Domestic Product.

We use GDP, no, we *misuse* GDP, in using GDP *growth* to measure of economic performance. If GDP is not larger this year than it was last year, we hear that we are having a “recession” or worse. Yet, GDP is the total selling *price* of all goods and services produced in a year. GDP measures price, not value. Especially with global warming threatening, we need to understand GDP as total price to be reduced where it is already excessive. We need better quality goods and services so we can reduce their quantity.

Autonomy succeeds where Making Money fails because players measure success in real terms, food, fiber, wood, metal, and fuel. We need to measure economic performance by the percentage of people who have adequate food, water, clothing, housing, tools, and fuel. GDP is the price we are paying for them.

The second Autonomy game objective that models a superior economic system is to employ the fewest people to increase free time. Translated to policy, that would mean annually reducing the normal work week by the rate of unemployment. If the average workweek is 40 hours and unemployment is ten percent, the average workweek would be reduced ten percent to 36 hours. Initially, the reduction might not reduce unemployment because of unnecessary work being done to preserve income. However, after unnecessary work is reduced, we would soon see jobs opening up for the unemployed. This policy would be applied without reducing the pay of most of the employed because most people are underpaid. Leaving their pay unchanged while reducing their hours of work would simply help adjust their wages upward and closer to fair wages.

2) Pricing

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 calculation of hours of work divided by units produced. The United States Department of Commerce of the Bureau of the Census at one time published precisely this kind of information. It reported that in 1950, for example, 28 hours of labor produced 100 bushels of wheat (Historical Statistics of the United States Colonial Times to 1957, page 281). Therefore, $28/100 = .28$ hours per bushel, or 60 times $.28 = 16.8$ minutes per bushel. Now in 2010, less labor is probably required. Actual prices for all goods and services could be determined and money prices adjusted accordingly.

Wages are the price of labor. The wage principle implicit in Autonomy is that labor is paid an hour of money for an hour of work. The Gross Domestic Product of the United States in 2009 was a bit more than \$50 per hour of work. GDP per hour of work would be a reasonable standard of a fair average wage. It could also be used to set currency exchange rates (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).

In Autonomy, privileged workers are more efficient than pioneers who are more efficient than primitives. So, selling prices of privileged workers are lower than selling prices of pioneers and primitives. This difference encourages educating pioneers and primitives to

privileged. The same incentive would operate in a real economy; educate everyone to their full capacity to everyone's benefit in lower prices for superior work.

Could some people be paid more per hour than others?

Autonomy is superior to Majority Rule because it uses money to decentralize decisions, thereby avoiding the problem of information overload. In a money economy, it is impossible to prevent unequal pay. A person with money can always pay someone they hire more than the standard rate and can always offer them less. The prospective employee can always demand more and refuse less. The difference from the present system is that each would have a clear standard of the average wage, an hour of money for an hour of work. That standard would allow variation in rates of pay but nothing like the extremes that exist today. Variations would be more reasonable.

3) Money creation

Autonomy is superior to Making Money 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, including the banker who must maintain it, into a debt trap.

I would make one improvement in translating the Autonomy method of money creation into policy; that is to *pay* the money into circulation rather than to simply give it to players. People could be paid to produce public goods represented in the game by transportation and education. I think it would be excellent public policy to pay people to go to school. This would get the money into circulation and add to the real Treasury, which is a competent population.

4) Sharing the cost of transportation and education

Autonomy avoids the information overload of Majority Rule because Autonomy limits the use of voting to public goods. It is clear with highway transportation that collective ownership and tax support is more efficient than private ownership of fragments of roads with tolls to cross out of one owner's stretch of road into another owner's stretch.

It is also clear that roads must consist of coordinated segments. So Autonomy includes everyone in deciding where roads should go and everyone sharing the cost. Translated into policy, lines as well as forms of transportation would be planned with maximum citizen input and be paid for by taxes. Even 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?

It may be less obvious that education benefits everyone. We may think that education is primarily in the interest of the person who receives the education. However, a little thought makes the point that the person served by the person with the education is at least equally the beneficiary. We want our doctors and nurses to be well educated. The same should apply to all professionals and all occupations. Therefore, education is like roads; we all benefit directly or indirectly and we should all pay taxes to optimize it for everyone.

5) Income Limits

The Making Money game fails because the accumulation of money is unlimited. Today we see the accumulation of money far beyond any reasonable level of human need and convenience. Three CEOs recently were paid \$460 million. At \$50 an hour, to earn that much would take 4,600 years. Put another way, these three CEOs were paid \$15,333 an hour. Athletes, movie stars, and TV personalities become billionaires (one billion = 10,000 years at \$50 an hour). Lottery winnings exceed \$100 million, the equivalent of 1000 years

at \$50 an hour! Meanwhile, we hear protests when anyone proposes raising the minimum wage, now less than \$10 an hour.

In Autonomy, incomes are unequal at various times in the game, but players are expected to leave the game with the same amount of money as at the start. This encourages players to share the work and the wealth. The same principle can be applied to real life incomes. We could set a lifetime income limit of \$10 million. That would be equivalent to \$100 an hour, \$200,000 a year, for 50 years. No other single and simple change that I know of would do as much to share the work and improve national well-being.

I enjoy thinking and writing about the kind of “household management” that Autonomy simulates. We deserve a better system than barter, socialism, or capitalism. Each has its strengths and its weaknesses. Autonomy builds on their strengths and avoids their weaknesses. The downside is only that we need to learn and apply its rules.

How do we get there from here?

If you have played and mastered Autonomy as a computer game, you have already taken the first step. You have experienced Autonomy and have seen that it works.

You can take the next step by encouraging other people to play Cooperation: The Wealth of Nations Game. As you did, they can download the game and these instructions free. The more people who know that Autonomy works, the closer we are to seeing its rules translated into policy.

You can take another step, which is to implement its rules whenever and wherever you can. As an individual and as the member of a family, you probably already judge your performance by the degree to which you and your family are able to meet your daily needs for food, clothing, housing, and other necessities and conveniences.

You can encourage similar thinking in your local community. For example, encourage your elected officials to make a similar assessment of needs in your community. Have them report the state of the town, city, or county in real terms of the percentage of people who have their needs met. We all know that many communities have hungry people, yet how many make it an official duty to track those people and adopt policies that will move the community toward meeting their needs. We know when our roads have potholes and it does not take long to see them filled. There are solutions to the food and housing needs of citizens, real solutions that empower people. You have heard the saying, “You can give a man a fish and feed him for a day, or you can teach him how to fish and feed him for a lifetime.” If people in a community use their minds together, cooperate, they can solve problems creatively, compassionately, and to mutual benefit.

You can also encourage candidates for higher political office to play Autonomy and to implement its policies. I see the process now as from the grassroots upward. Step 1: Play Cooperation: The Wealth of Nations Game to experience the differences the rules make and to know that the rules of Autonomy are good ones. Step 2: Encourage others to play Cooperation and learn what you have learned. Step 3. Implement the rules in your own life. Step 4. Encourage local officials to implement the rules in your community. Step 5. Encourage officials at higher levels to implement the rules statewide, nationwide and worldwide.

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