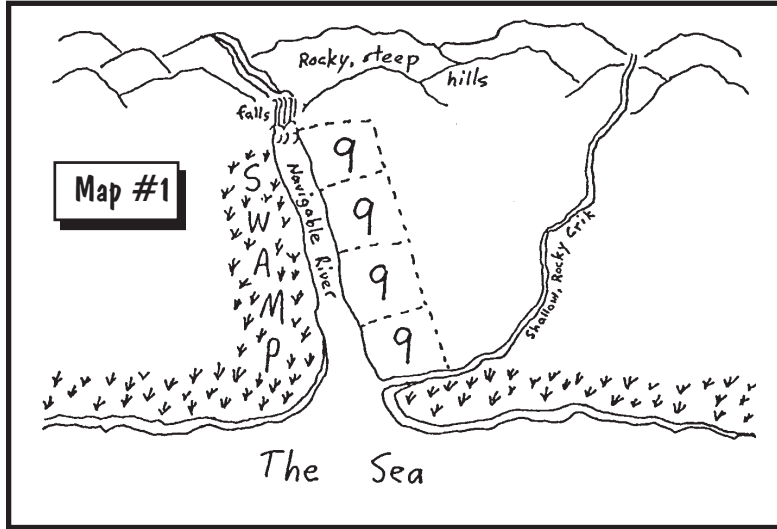
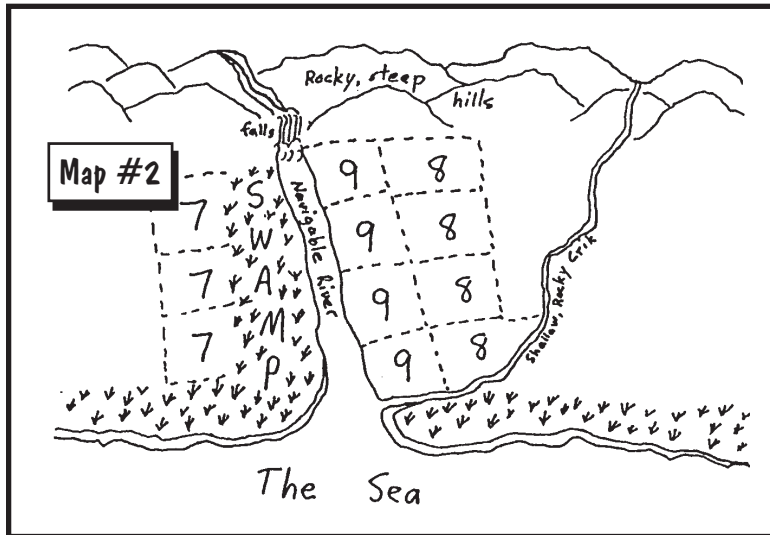


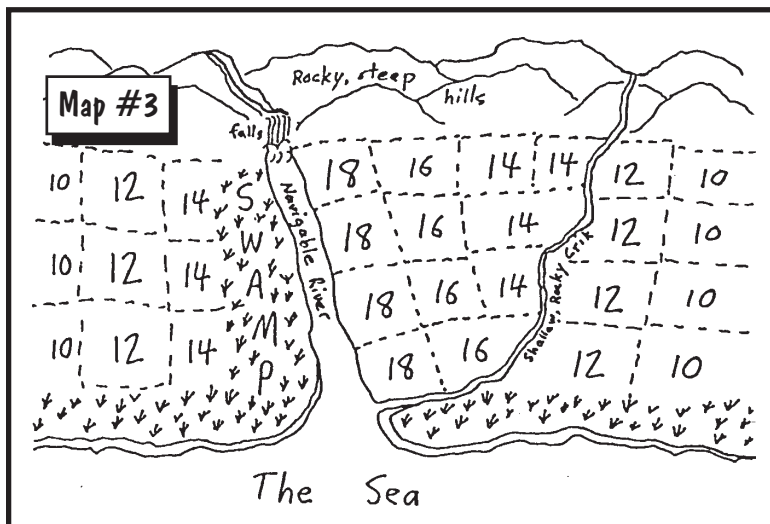
# The Dynamics of Wealth Distribution



People settle on the best available land, establishing farmsteads.



Those who come later have to settle for less-ideal sites — and those who want access to the better sites have to pay the difference: that's called Rent.



Increased population pushes the frontier back to less-useful land. But, cooperation has enabled more production to take place on all lands.

(See chart #2)

**Chart #1**

Average Wealth	9	8	7	6	5	4	3	2	1
- Wages + Interest	6	6	6	6	x	x	x	x	x
= Potential Rent	3	2	1	0	x	x	x	x	x

(The numbers in this model are arbitrary — chosen for ease of calculation. But we designate 4 as the level of bare subsistence.)

**Chart #2**

Average Wealth	18	16	14	12	10	8	6	4	2
- Wages + Interest	10	10	10	10	10	x	x	x	x
= Potential Rent	8	6	4	2	0	x	x	x	x

Two things happen to make it possible for production to increase on all lands: Increased population enables cooperation and economies of scale (Chart #2); and Improved technology makes labor more productive (Chart #3). Both of these processes increase the demand for land, pushing back the margin.

**Chart #3**

Average Wealth	36	32	28	24	20	16	12	8	4
- Wages + Interest	16	16	16	16	16	16	x	x	x
= Potential Rent	20	16	12	8	4	0	x	x	x

Increased population and technological improvement means that one can now produce 16 on land that once only yielded 4 — and the formerly sub-marginal land can now afford bare subsistence.

Chart #4 shows what happens when land speculators take possession of all the available land. Now, labor and capital have no viable place to produce. Wages and interest are forced by competition to the lowest levels that labor and capital will accept.

**Chart #4**

Average Wealth	36	32	28	24	20	x	x	x	x
- Wages + Interest	4	4	4	4	4	x	x	x	x
= Potential Rent	32	28	24	20	16	x	x	x	x

**Chart #5**

Average Wealth	36	32	28	24	20	x	x	x	x
- 25% tax	9	8	7	6	5	x	x	x	x
- Wages + Interest	4	4	4	4	4	x	x	x	x
= Net Rent	23	20	17	14	11	x	x	x	x

Because competition has reduced wages and interest to bare subsistence levels, all taxation comes out of what rent landowners could otherwise expect to collect.

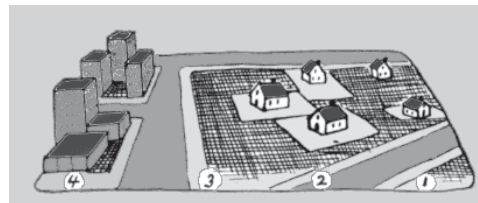
But, if land rent were collected for public revenue, land speculation would cease, and the opportunities for self-employment would reappear!

**Chart #6**

Average Wealth	36	32	28	24	20	16	12	8	4
- Wages + Interest	16	16	16	16	16	16	x	x	x
= Rent Revenue	20	16	12	8	4	0	x	x	x

# A Closer Look at the Law of Rent

Adding a few specific factors can help us to understand how land speculation works in real life. Here is a model with five different grades of land. Workers are more productive on better land — they can each produce more units of wealth (because the best workers tend to win the competition for areas that offer the best opportunities, and more capital is used there). Furthermore, on the better grades of land, more workers can be employed on each “plot” (unit of area). But the cost of public services (infrastructure) is greater in proportion to the amount of production and the number of workers.



Let's say that in this model there are five plots of each grade of land, and that one of each four has been held out of use.

4 plots of each grade of land	5 units per worker/day; 50 workers per plot	4 units per worker/day; 40 workers per plot	3 units per worker/day; 30 workers per plot	2 units per worker/day; 20 workers per plot	1 unit per worker/day; 10 workers per plot	
plot 1	50 x 5	40 x 4	30 x 3	20 x 2	10 x 1	
plot 2	50 x 5	40 x 4	30 x 3	20 x 2	10 x 1	
plot 3	50 x 5	40 x 4	30 x 3	20 x 2	10 x 1	
plot 4	0	0	0	0	0	Totals
# of workers	150	120	90	60	30	450
wealth output	750	480	270	120	30	1650
infrastructure cost	200	160	120	80	40	600



Now let's see what happens if we employ the same number of workers, under the same conditions, but without land speculation:

4 plots of each grade of land	5 units per worker/day; 50 workers per plot	4 units per worker/day; 40 workers per plot	3 units per worker/day; 30 workers per plot	2 units per worker/day; 20 workers per plot	1 unit per worker/day; 10 workers per plot	
plot 1	50 x 5	40 x 4	30 x 3	free	free	
plot 2	50 x 5	40 x 4	30 x 3	free	free	
plot 3	50 x 5	40 x 4	30 x 3	free	free	
plot 4	50 x 5	40 x 4	free	free	free	Totals
# of workers	200	160	90	-	-	450
wealth output	1000	640	270	-	-	1910
infrastructure cost	200	160	120	-	-	480

## A Question: “Equal Application of Labor and Capital”? What does this mean?

In George’s exposition of the Laws of Distribution, everything depends on the Margin of Production. Here is how he states Ricardo’s Law of Rent: “*The rent of land is determined by the excess of its produce over that which the same application can secure from the least productive land in use.*”

Some have noticed that the conditions of production at the “margin of cultivation” (simple farming and mining) are very, very different from the conditions of production on the most valuable land (what goes on in, say, the Financial District). How can there be any such thing as “same application” of labor and capital?

It will help to recall that the “same application of capital” is not the same thing as “the application of the same capital”. That’s because capital is fungible — it can easily be converted into whatever form is called for under particular conditions.

At the frontier, virtually no production is possible without the use of such simple capital as an axe, a shovel or a plow. Having those tools (as opposed to working with bare hands) would make an individual’s labor dozens of times more effective at producing wealth! Doesn’t that mean that the return to capital is actually much higher at the margin?

Well... no. We are accustomed to thinking of interest in terms of a percentage amount. But, in political economy, what we mean by “economic interest” is the share of overall production that goes to capital. At the frontier, land is free, so the worker would use as much land as she could profitably use. The owner of capital will receive a payment based on his opportunity cost of using the capital himself rather than loaning it out. The laws of distribution tell us that the return to capital *at the margin* will be the *general rate of return to capital* everywhere else. Capital may be cast into different forms or put to different uses, in different amounts — but the *rate* of return to capital will equal the optimal return that it could get without having to pay rent.

It’s true that the use of those tools made the settler’s labor, say, maybe, 500% more productive than it would have been without them. But let’s not forget that in a city, well over 500% more people can work on a given acre of land than they can down on the farm!

In fact, although farms use large *areas* of land, in terms of the relative values of the land, labor and capital used, farming ends up being much more capital-intensive than other industries.

In political economy, we must always remember that the returns to labor and capital — wages and interest — depend on their alternative at the margin. As long as there is any viable opportunity at the margin — regardless of its character, or the type of capital needed there — that is where the return to capital is determined.

And when there is NO viable self-employment opportunity at the margin, do the laws still remain in effect? Indeed they do — but in that case there is one difference. Wages and interest cannot fall to what they’d be at the margin (zero, because there is no usable frontier), because labor has to stay alive, and capital must be maintained in usable condition. So if there is no viable margin of production, then wages and interest fall to the lowest level that labor and capital will accept, to get them to come to work.

## A Footnote: NYC Neighborhoods

I jotted down some 300 monthly-rental rates for one-bedroom apartments in Manhattan, from the *Village Voice* classifieds. From a cursory sample of about 25 examples in each neighborhood, I got these averages:

Flatiron	3799	Murray Hill	2560
Greenwich Village	3347	Gramercy Park	2224
Soho/Tribeca	3157	Hell’s Kitchen	2180
Gramercy	2941	Lower East Side	2121
Midtown	2841	East Village	2084
Chelsea	2817	Harlem	1437
Clinton	2710	Inwood	1192
Financial	2701		

Now, the only variable in this mini-study was the *Voice’s* (somewhat vague) definition of neighborhoods. A more scientific approach would use a much larger sample, and would control for as many non-locational factors possible. But I think there’s trend here that’s worth looking into!