

Page Three – Fountain Analogy

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This piece continues exploring equilibrium as an economic concept. We said that equilibrium is when there is no tendency to change (pendulum clock, stopped), and dynamic equilibrium is a moving system which moves in a steady-state way (pendulum clock, wound; occasional re-winding so it doesn't stop; fountain with same "shape" moment to moment).

We introduced a photo of a fountain as an example of a system in dynamic equilibrium, and used it to symbolize dynamic equilibrium in a large abstract, mathematical economic model.



Fountain in Dynamic Equilibrium.

Pumps keep the water in balance. The system holds its shape even as water flows around it. If we change the pump action, we can change how tall the water-spikes get. If we want to change the number of raised bowls, that involves changing how the water flows – we will need to add some more pipes and pumps, and adjust the ones already there.

We can say that the water represents money going around an economy, getting things done (buying, selling, investing, building,

etc.); the pipes, bowls, and pumps represent infrastructure (the physical items that constrain the economy to operate in a certain way – such as railroads that only go to cities, or only along coasts).

A mathematical modeler may consider this fountain analogy sufficient. Yet, we and they also understand that there is an unknown factor in real-world economic systems – and that is the presence of human values, choices, and behaviors. Economists are supposedly technicians, using math and models to advise policy-makers what may occur under different policy choices, but the policy-makers are the ones who must make the value judgments and decisions on behalf of society.

So, I am going to add an “unknown” factor to our fountain analogy. In our modern world, we have laws, or a “legal infrastructure” – the way we want people to behave, or think they should be required to behave. Since laws are not physical things, like railroads or buildings, people do not actually have to obey the laws of the land. Usually, there is a penalty for breaking the rules. Sometimes we break the rules on impulse and get punished afterwards; sometimes we decide that a rule needs to be broken so badly that we will pay the price for so doing.

Each of us may decide how much rule-breaking we might tolerate in self or others. Yet, I think that, if law-breaking is sufficiently prevalent that it disrupts the system (think – too many leaves in the fountain; too few filters, so the leaves clog the works of the pumps, for example), then the system will break (fountain stops working). How might policy-makers and economists address an economy that is breaking, for reasons of “civil disobedience”? Do we make more and better laws, and enforce them better? Do we argue that the problem is coercion and regulation, so that people need to be given more freedom, then they will cooperate better? Or do we ask why all of a sudden more leaves are dropping down on our fountain, when we thought they were not a problem before?

Oops! Page three is full. See next pages for more...