The Economist

The swimming-pool analogy again

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ON TUESDAY *Slate* sponsored a debate over whether Congress should pass the Obama administration's jobs plan, and at the end of the evening the audience voted 69 to 22 for the side arguing "aye", made up of Mark Zandi, an economist at Moody's Analytics, and Cecilia Rouse, an economics professor at Princeton. (A pre-vote held before the debate to address sample-bias issues showed the "aye" side winning 45 to 16.) The results shouldn't be surprising, since the debate was held in New York. But what caught my eye was the part of the debate where, according to *Slate's* Melissa Weingarten, the "nay" side, argued by the Cato Institute's Dan Mitchell and Richard Epstein, a law professor at NYU, seemed to be doing well.

Mitchell and Epstein began the debate strongly, especially when Mitchell engaged the audience in a clever "quiz" to show that the American Jobs Plan is simply a repeat of failed economic policy. "Let's divide this room in half," he began. "Let's borrow all the money out of the pockets of the people on this side of the room and give it to the people on this side of the room. Now here's the quiz. Raise your hand if you think there's more money in the room." The audience chuckled. This stimulus, he explained, is simply a redistribution of national income. "Our goal should be not to redistribute national income; we want to increase national income," Mitchell said. "We want a bigger pie so everyone can get a bigger slice; that's what economic growth is all about."

This is a version of an analogy that has been circulating for years among conservatives arguing that government spending cannot, by nature, increase economic activity. I think it's best referred to as the "swimming-pool analogy", since that's the way it was deployed by the Cato Institute's Brian Riedl in January of 2010. (I blogged about Mr Riedl's claim at the time.) It's also the way it appears in a widely circulated internet joke, which this Texas high-school economics teacher complained about as early as March of 2009. The claim is that government stimulus spending is like taking water out of one side of a swimming pool and pouring it into the other: it doesn't change the water level. Hence, government spending cannot stimulate the economy.

I think this is a terrible analogy, for reasons I'll detail below. But I'm just some blogger. So I emailed Jared Bernstein, formerly Joe Biden's top economic adviser and now at the Center on Budget and Policy Priorities, for his take. He thinks it's a terrible analogy too. "The swimming pool analogy doesn't work because it's

static...the economy has cycles—demand, in particular, is too low right now," he wrote back. He offered his own analogy:

Think of the economy as a car and fuel as the demand that propels the car forward. The gas tank is empty, but we've got a tank of gas sitting on the lawn next to the car. If we put the gas in the tank, the car can get started and go somewhere.

Is there any more gasoline in the world? No. But we took the gas we had and used it to get the engine started.

You can think of gas as the excess savings that won't otherwise be absorbed because of demand contraction/liquidity trap.

The folks who don't get this simply assume that savings always equals investment, oblivious to what's happening around them. It's not just academic. It's a tragic waste of human potential.

It looks to me like the basic error Mr Mitchell's exercise and the swimming-pool analogy make is to confuse money with economic activity or GDP. A swimming pool might be a reasonable analogy for the money supply, and, indeed, if the government takes money from one place and sends it to another, that doesn't change the money supply very much. But the amount of money in the economy is not what we're interested in here. We are interested in economic activity, or GDP: people spending money to buy goods and services. We're interested in how much spending and working is going on, not how much money there is. And when government spends money to buy goods and services, it can certainly increase the amount of economic activity, especially if other individuals and organisations aren't doing much spending.

If you're looking for a good analogy of the economy using fluid, you don't want to compare it to a swimming pool. You want to compare it to an irrigation scheme, or some other kind of hydraulic system. In a hydraulic system, what's important isn't necessarily how much fluid there is, but how fast it's moving and how high the pressure is. And, obviously, taking fluid from one part of the system and moving it to another part of the system increases flow. Indeed, taking fluid from one place and moving it to another is the entire nature of a hydraulic system. That's why back in the 1950s and 60s, before computers became practical, economists used to model the economy using crazy-looking hydraulic machines. The last remaining one appears to be at Cambridge University; it was recently restored to working order as a historical technology project.

To bring things back to the *Slate* debate, I wouldn't have called Mr Mitchell's argument about redistribution "clever"; I would have called it confusing. Imagine instead that Mr Mitchell had taken all the money out of the pockets of one half of the room, and used it to pay the other half of the room to give the first half of the room backrubs. Would this have increased economic activity in the room for that period?

Absolutely: money would be spent and backrubs would be performed, where otherwise people would have been just sitting around doing nothing with cash in their pockets. Would this have been an optimal or desirable use of that money or of those people's time and labour? Probably not, in most cases. But that's a different question, and the government and the economy are too different from a bunch of people sitting in a lecture hall to construct a simple exercise that would say anything useful on that score.