Energy, expenditure and consumption effects of rebound, Part II

I am amazed that you thought that explaining your diagrams several pages away from the place that they appear was a sensible response to my comment about whether you needed the “stand-alone” explanation! That just makes it much harder to follow the explanation, while, as you point out, it only saves a small amount of space.

What I had recommended, and still think you should do, is to start to explain figure 2 in a paragraph that comes immediately after line 200. “We can show these effects, and those we are about to set out, in a diagram that measures direct energy use on the horizontal axis and indirect use (or rather, all energy use except by the device itself) on the vertical [and so on]”. Then the numbers for substitution effects, and how they appear on the diagram, then income, then macro. The explanation will help any reader who’s coming to the paper too long after reading part I (or never having read it), and will all be close to the diagram it’s explaining, making referring back and forth easy.

After that, you can give the expenditure changes and explain how they are presented in figure 3, again, keeping the references to the diagram close to where it is in the paper.

Then explain the consumption changes and figure 4.

I think this would be easier for the reader than explaining how all dimensions of the emplacement effect are portrayed in three separate diagrams, and then giving the substitution effect, and so on – that way, the reader has to keep switching between three different figures and some of the text is inevitably going to be further away from what it’s describing. If you really prefer that approach, I’d suggest writing both versions and giving them to someone who’s unfamiliar with your work to get their feedback. On the other hand, for the lamp example, once the diagrams have been properly introduced, I think combining the different aspects in your text, as you do now, makes sense. The diagrams aren’t too far from any of the text, as the text is fairly short.

In line 137, I think you should probably point out that you are defining emplacement in a way that doesn’t alter consumption patterns (this might also be a point for part I). This is not the only way it might be defined. Emplacement requires me to spend more on the new device (always if completely new; usually if a replacement) and that is going to mean that I have less money for everything else. That could be thought of as an indirect emplacement effect. You do capture this effect, but as part of “income effects”. Doing so makes sense, but I strongly suspect some economists would be conditioned to think that “income and substitution effects” both relate solely to the change in the “price” of the energy service, because those effects are inevitably taught in the context of a price change.

For table 8, make the reader’s life easier, and add a column to the left which reminds us what each parameter stands for – there’s space! I wondered about using dots or dashes to show when parameters (or choice variables, such as distance driven) take the same value as in the previous (leftward) column – it becomes more obvious when a changing parameter is leading to a change in energy use (etc), and the sparser table concentrates the reader’s attention on the things that are changing rather than those that are not. The same comment applies to table 10, of course.

I’m doubtful about your calculations for the lamp, however. You suggest that the lighting demand would rise from 0.6 million lm.hr per year to 1.4 million lm.hr per year, so more than doubling. But that’s from an unchanged number of lights. Are people with more efficient lights leaving them on twice as long? I doubt it. Fouquet is looking at long-run changes, where I expect houses were being built with more lighting points in each room, consumers were perhaps putting in brighter (e.g. 100 Watt rather than 60 Watt) incandescent bulbs, and perhaps people were adding corner and table lamps. You could incorporate such changes, but of course they’d have their own embedded energy and cost…

On page 24, I think the returns to money spent on industrial policy are a very different concept to the kind of multiplier you’re looking for. You’re wanting to know how a dollar saving on energy cost is going to affect output; the study you cite sounds as if each dollar spent by the government gives benefits of five dollars, but those aren’t split between the saving from the technology and the benefit of greater output. What if all the benefits were due to lower costs with no greater output? I think this is the most speculative part of the paper – particularly as some of the argument seems to suggest that changes in the efficiency of using consumer goods is going to have supply-side impacts on the wider economy, beyond the standard Keynesian expansion of aggregate demand. I’ve re-read your comments in Part I and remain unconvinced; I’d suggest looking for estimates for standard Keynesian multipliers.