

## THE MARGINAL EFFICIENCY OF CAPITAL: REPLY TO FULLER'S REJOINDER

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*ABSTRACT:* This is a brief reply to "The Marginal Efficiency of Capital: Rejoinder." I explain that I never intended to defend Keynes against Fuller's (2013) criticism. Rather, I intended to highlight that Keynes's conclusions rest on a key shortcoming in Keynes's theory: the assumption of sticky factor prices.

*KEYWORDS:* John Maynard Keynes, marginal efficiency of capital, net present value

*JEL CLASSIFICATION:* E12, E22, E52, E58

### INTRODUCTION

I hesitate to write a reply to a rejoinder, as it seems likely that marginal utility in such discussions can very quickly diminish. However, after reading Fuller's response, I thought some clarifications of my own position were in order. Rather than defend Keynes against Fuller's (2013) criticism, my purpose was to emphasize the flawed assumption of sticky factor prices upon which Keynes's conclusions rest.

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## MY EXAMPLE

In some sense, I agree with Fuller's rejoinder that my MEC is not Keynes's MEC—but for reasons different than Fuller's rejoinder suggests.

Fuller contends that the problem is that, unlike Keynes, I use the supply price of an alternative project to calculate the MEC of a specified project. This is not really a problem since I assume that the two projects "would utilize the same resources" (Engelhardt, 2014)—and so have the same supply price. (This is one way in which my example differed from Fuller's wood and steel bridges—which, presumably, use different resources.)

The way in which my MEC is different from Keynes's is that I assume that the supply price adjusts so that there's a "tendency for the net present value of an investment project to equal zero" (Fuller, 2013). So, it is perfectly accurate to say that my internal rate of return (IRR) is "incompatible with Keynes's [business cycle] theory." (Fuller, 2015) Actually, I think Fuller (2015) makes a very strong point that I neglected to notice. As Fuller says: "Keynes argues that the business cycle is caused by fluctuations of the MEC. However, Engelhardt's IRR cannot fluctuate." This is exactly right. By my assumptions, any collapse in expected cash flow will lead supply prices to fall proportionally so that the IRR is unaffected. This is not true in Keynes—and it is not true in Keynes precisely because Keynes assumes sticky factor prices. This is also why my comment should be seen as a critique—not a defense—of Keynes's theory.

## CLARIFICATIONS

A more serious charge is that my comment "contains basic misunderstandings about economic calculation." In particular: because I rank projects by present value (PV) rather than net present value (NPV). I agree that, in general, this would be incorrect—however, my example assumes "that the two projects are competing ways of using the same set of resources" (Engelhardt, 2014)—and therefore have the same startup costs. So, the PV ranking and NPV ranking will be the same in this case. So, while NPV may, in general, be the

correct criteria, if we are dealing with a given set of resources, NPV rankings and PV rankings will give the same result.

I am also accused of not distinguishing between independent projects and mutually exclusive projects. To this I plead guilty—because in that regard, I was following Keynes's lead. Since I was intending to highlight Keynes's sticky price assumption, I left part of his theoretical apparatus in place. According to Keynes: "the actual rate of current investment will be pushed to the point where there is no longer any class of capital-asset of which the marginal efficiency exceeds the current rate of interest." (Keynes, 1936) This was intended to further highlight that "Austrian theory is primarily about *which* investment projects get chosen, while Keynesian theory is driven by the question of *how many* projects get chosen." (Engelhardt, 2014) I agree that, if we want to do theory well, ranking is the correct approach, since in reality—unlike in Keynes—resources are scarce.

## CONCLUSION

The example I gave in my comment involved three key assumptions: (1) two projects that would both utilize the same resources, (2) multiple entrepreneurs considering each project, and (3) factor markets that adjust so that the net present value of the winning project is zero. Under these assumptions, MEC (or, alternatively, IRR) and NPV calculations give the same ranking—so Fuller (2015) is correct that "An investor can always get the correct answer by using the NPV, so Engelhardt's IRR is superfluous." In order for MEC and NPV rankings to differ we require, as in Fuller (2013), that prices do not fully reflect present values. Under those conditions, Fuller (2013) is correct. At the heart rests a bigger issue: whether ranking is relevant. In his use of the MEC, Keynes (1936) does not appear to believe that ranking matters—as investors do not choose between projects. They simply invest in a project or do not based on a comparison of the MEC with the going rate of interest. However, I agree with Fuller (2013, 2015) that, in reality, ranking is relevant—that is, which projects are chosen matter. Choosing is always a choosing between alternatives—and, at heart, Austrian business cycle theory is about when investors choose their projects poorly.

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