TESTING AUSTRIAN BUSINESS CYCLE THEORY? A SECOND REJOINDER TO ANDREW YOUNG

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Abstract

Young (2005) attempted to test Austrian Business Cycle Theory (ABCT). Murphy, Barnett and Block (hence, MBB, 2009) criticized Young (2005) on the ground that his model failed on its own terms. MBB (2009) found significantly different parameter estimates using the same data as did Young (2005). Beyond these serious objections, there is the more fundamental difficulty that Young's approach, even if conducted flawlessly, would still be an improper "test" of ABCT. Young (2010) is a response to MBB (2009). The present paper is a rejoinder to Young (2010). We argue that Young (2010) was not an adequate response to MBB (2009) for the following reasons: tba

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1. Introduction

We warmly welcome the publication of Young (2010). At this time of economic travail,[1] the more we as a society learn about the causes of recessions and depressions, the better off we shall all be. In our view, ABCT is our last best hope for an understanding of this phenomenon. Unhappily, major attention has been given to Keynesianism, Monetarism and Real Business Cycle theory as explanations; the Austrian contribution, the only correct one in our perspective, has all but been ignored.[2] In focusing on ABCT, Young (2010) does a real service to the economics

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[1] We write in the recessionary fall of 2010, the opinion of the National Bureau of Economic Research to the contrary (http://blogs.wsj.com/economics/2010/09/20/nber-recession-ended-in-june-2009/) notwithstanding.

[2] Woods (2009) is an important exception to this generalization.

profession, particularly to the Austrian school, and makes an important contribution to society in general. However, when it comes to the specifics, we find ourselves, still, not reconciled to his specific analysis. Let us consider, in detail, where the present authors depart from Young (2010).

Young (2010, 2) starts out on the wrong foot. He states: "MBB are content, ultimately, to dismiss such efforts … (econometric analysis of ABCT) … entirely: 'it is a mistake to think that one can [with regression analysis] illustrate, much less "test," ABCT (MBB, 2009, p. 77)." But this is not at *all* what we say. Well, we do indeed mention what Young (2010, 2) attributes to us, but he cuts us off midway, thus radically changing the meaning of our statement. The full quote is as follows (we now emphasize in italics what Young leaves out): "*Thus* it is a mistake to think that one can much less test, ABCT *with a model, such as Young's, that attempts to capture resource (specifically labor) reallocations with a single-equation for each industry; this is simply inadequate to the task*." Young does not so much as place ellipsis (…)[3] after "ABCT" in his quote from BMM (2009), which would indicate that he had truncated what we had said. In other words, Young reports in effect that we, BMM, oppose econometric regression analysis *per se* as a way to shed light on ABCT, whereas in point of fact we were only voicing objection, in that quote, to *his*, Young's (2005), manner of proceeding in this regard. Had he quoted us accurately, even leaving off the crucial last part of our sentence, he would have done so as follows: "… it is a mistake to think that one can much less test, ABCT…," thus indicating that he had left out some of what we had written. That he did not we find highly problematic. It is as if author A said "I favor Hitler dead and buried," and author B attributed the following to author A: "I favor Hitler." At the very least, author A should have had the decency to use ellipsis, to indicate that he was truncating the statement of B: "I favor Hitler…" Then, disinterested readers would have wondered just what was deleted from A's quote of B. But, as it stands, A is in effect claiming that B supported this Nazi leader. That is not at all kosher.[4]

The present paper will follow the very reasonable outline established by Young (2010). Thus, section 2 shall discuss internal criticisms of Young (2005). Section 3 will address itself to a comparison of his and our empirical estimates. We again follow Young's (2010) lead in devoting our section 4 to the issue of "testing" versus "illustrating" economic theories. The burden of section 5 will be a discussion of the importance of quantitative work for ABCT. And, as does Young (2010), we, too, will conclude in section 6.

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[3] http://en.wikipedia.org/wiki/Ellipsis. This oversight of Young's constitutes definitive evidence that he studied grammar with nuns (0) not rabbis (1).

[4] We do not claim, of course, that Young's (2010) deviation from appropriate conventions of quotation is as egregious as the Hitler example. We use this latter example not to explain the severity of the misinterpretation, but, merely, its format.

2. Internal criticisms of Young (2005)

Here, Young (2010, 3) reminds us of his "20 two-digit SIC industries representing US manufacturing," without taking note of the criticisms of his employment of this data we mentioned in MBB (2009, 78, 79, footnotes deleted): "Young's attempt to empirically test ABCT fails on several grounds. First, all of Young's chosen industries come from the manufacturing sector. Yet this is the single *worst* sector to pick. As Young's own Hayekian diagrams indicate (p. 277), central bank-induced expansions have the smallest effect in the middle of the triangle.… Finally consider the 20 industries used in the study (see appendix). The first few, (20-23) may be categorized as consumer goods. Young speaks in terms of a focus on *manufacturing*, but then lists these four clearly non-manufacturing categories. These four (20-23) are represented most reasonably, in Young's figure 1, as 'retailing' or 'later stages.' The remainder are almost certainly to be characterized as either producers' goods, or consumer durables. Thus, they would most properly be placed in his 'earlier stages.' While some of these 20 can possibly be associated, specifically, with various of the stages depicted in his figures, others of them clearly transcend two or more or even all of these stages. They cannot all be considered members of the 'manufacturing' stages in his figure 1."[5] If we are to achieve real disagreement with Young, it simply will not do for him to ignore our criticisms of his previous work.[6]

2.1 Lags

States Young (2010, 4) "My assumption is that it takes one quarter for monetary policy changes to affect businesses' plans." This, to say the very least, is *entirely* incompatible with ABCT. A key point of this analysis is that not only are not "business plans" affected one quarter after monetary policy kicks in, but that for intents and purposes, they are *never* affected. That is, the business community *mis*allocates resources in a manner that would not occur in the absence of our Fed

[5] Young in his footnote 1 states; "MBB make the perplexing claim that they "did not see a constant term in the model' (p.77). Fixed effects (i.e., the δ's [sic]) are precisely cross-sectional unit-specific constants." He is correct; however, this does not alter any of our criticisms of his paper.

[6] We find it more than passing curious that one more than one occasion Young (2010) upbraids us not for errors we make (although to be sure, he does that too) but for sins of omission (other than not being responsive to his challenges leveled at us). For example Young (2010, 4) "find(s) it peculiar that MBB simply did not check whether or not using contemporaneous (absolute value) funds rate changes makes a statistically or economically significant difference." Young (2010, 5, fn omitted) chides us as follows: "To my knowledge, non-manufacturing industry-level reallocation data are not currently available. Given this, MBB neither offer nor pursue alternatives." Young (2010, 7) takes us to task because "MBB (do) not offer positive contributions for econometric analyses of ABCT." Young (2010, 9) is unhappy that "MBB's (2009) criticisms are … entirely negative; they lack any positive contributions or suggestions for future contributions. Our response is, first, there is such a thing as the division of labor; it is operational in economics research as it is in all other things. Second, a purely negative contribution is still a contribution.

with its monetary policy. No, wait, this is too quick. Matters are a bit more complicated than that. There is a bifurcation. The foregoing statement is correct, only, with regard to the bust phase of the ABC. Young's assessment for the boom phase, for all anyone knows, may be entirely correct. That is, it might well be true that businessmen misallocate resources with a lag of one quarter after monetary policy occurs. However, for recession or depression, it often takes not months, nor quarters, nor, even, years, for business plans to be affected, but *decades*. Consider Rothbard (1963) as an example. In his ABCT analysis, the setting for the depression of the 1930s emanating not a month, quarter, or a year before that time, but, rather, in the early and mid 1920s, roughly a *decade* before that time

Milton Friedman (1960, 87) wrote: "In fact, however, there is much evidence that monetary changes have their effect only after a considerable lag and over a long period and that the lag is rather variable."

2.2 Manufacturing as center of triangle

Focus, again, on Young's (2005) two figures. The first one divides the Austrian triangle into five parts, with "manufacturing" right in the middle. Although it is not crystal clear from the second figure where a change of interest rate is depicted, the dashed and solid hypotenuses of the triangle could well cross right dab smack in the middle of the triangle, right in the territory marked "manufacturing" in figure one. If so, we would then expect *zero* job reallocation, consequent upon an artificial interest rate alteration, that is, nada, zip, none at all, in manufacturing. So, even according to Young's own depiction of ABCT, there is no need for *any* job reallocation in manufacturing. And yet, a large part of his denigration of this theory is that there is only modest job reallocation in this sector of the economy. Young, here, is hoist by his own petard. This is a point we make in MBB (2005, 78, footnote deleted): "Young's attempt to empirically test ABCT fails on several grounds. First, all of Young's chosen industries come from the manufacturing sector. Yet this is the single *worst* sector to pick. As Young's own Hayekian diagrams indicate (p. 277), central bank-induced expansions have the smallest effect in the middle of the triangle."

How does Young (2010, 5) attempt to deflect this criticism? He states: "… MBB's characterization of the triangle is too literal. Figures 1 and 2 of (Young 2005) (sic) are best interpreted as a Hayekian triangle for a *given, hypothetical good*. In the real world manufacturing occurs at various stages of production, e.g., drills are manufactured to extract iron that is manufactured into assembly line that are then used to manufacture cars."

There are problems here, numerous and serious. First, if what Young (2010) now says is true, how, then, to explain his (Young, 2005) figure 1, where manufacturing, all by itself, occupies the central position and is clearly separated from the other four stages of production, labeled, respectively, "mining," "refining," "distributing" and "retailing." Is Young (2005) correct in depicting figure 2 as he did, or is Young (2010) on the mark in terms of rejecting this self same diagram? This author, certainly, cannot be allowed to have it both ways.

Second, Young (2010) cannot be permitted, either, to make things up as he goes along. If he is relying upon the triangle to illustrate ABCT, at least in his publication of 2005, as he clearly is, then he is logically compelled to interpret it "literally," precisely as it has been interpreted by a long line of Austrian economists[7] who, as in Young (2005), have done just that. If he wants to reject ABCT, well and good. But, for the purposes of Young (2005), he is *accepting* it, at least arguendo. If so, then let him "dance the whole dance" and not jettison the triangle of ABCT at the slightest hint of trouble. He who lives by the triangle must die by the triangle, too.

Third, the traditional Austrian who still supports the triangle[8] has a quick and easy response to Young's (2010) defense. He could say, Who *cares* where manufacturing takes place in the so-called real world? We are now in the world of the triangle! And, in the world or model of the triangle,[9] the drills that are manufactured to extract iron do not count as *manufacturing*; rather, they count as *mining*; the drills that are manufactured in the assembly line do not count as *manufacturing*; rather, they count as *refining*; *only* the drills that are manufactured to make cars count as manufacturing. Similarly, the drills that are manufactured to help with distribution or retailing count in the latter two categories of Young's (2005) figure 2, and drills that are found in households count as *consumption*.

It is the same with a pick up truck. When it is *used* in a mine, it is part and parcel of the mining section of Young's (2005) figure 2. When it is *used* in refining, it is part and parcel of the refining section of Young's (2005) figure 2. When it is *used* in manufacturing, it is part and parcel of the manufacturing section of Young's (2005) figure 2. When it is *used* in distributing, it is part and parcel of the distributing section of Young's (2005) figure 2. When it is *used* in retailing, it is part and parcel of the retailing section of Young's (2005) figure 2. And when it is *used* in consumption, it is part and parcel of the consumer section of Young's (2005) figure 2. In poetry, it may well be that a "rose is a rose is a rose." But in economics, it is *not* true that a truck, or a drill, is a truck or drill, is a truck or drill. No, when we're talking ABCT triangles, these items are to be categorized in the manner they are *used* not on the basis of what they *look* like, objectively. This is an aspect of yet another element of Austrian economics that seems to have passed by Young (2010): subjectivism.[10]

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7 See on this Hayek (1931), Garrison (1994, 2001, 2004), Garrison and Bellante (1988); numerous other economists who interpret the triangle "literally" are cited in Barnett and Block (2006).

8 In spite of the vicious and devastating attack that has been launched against it by Barnett and Block (2006).

9 As a neo classical economist, Young should surely appreciate the functioning of a *model*.

10 States Hayek (1979, 52): "And it is probably no exaggeration to say that every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism." Also, see the following on this issue: Barnett (1989), Block (1988), Buchanan and Thirlby (1981), Buchanan (1969, 1979), Butos and Koppl (1997), Cordato (1989), DiLorenzo (1990), Garrison (1985), Gunning (1990), Kirzner (1986), Mises (1998), Rizzo (1979A, 1980), Rothbard (1979, 1997).

Another difficulty in this section arises when Young (2010, 5) states: "To my knowledge, non-manufacturing industry-level reallocation data are not currently available. Given this, MBB neither offer nor pursue alternatives." True, in MBB (2009) we failed in this task. However, we now make up for this lacuna, and offer some advice: if you wish to do empirical work, and cannot find data that is absolutely crucial to your analysis, do not substitute clearly inappropriate data for the statistics that are unavailable. Instead, focus your empirical analysis on different areas, where there is accurate and relevant data to be had.

3. Empirical estimates

Young (2010, 6) starts this section of his paper off as follows: "MBB claim that the parameter estimates reported in Young (2005) are erroneous. My own replication arrives at the original estimates. However, I will not argue that point here. Instead I will *take for granted* that MBB's new estimates are correct and ask a follow up question: *Do they lead to meaningfully different conclusions that those arrived at by Young (2005)?*

This really will not do. Milton Friedman famously said: "That methodological approach [Austrianism], I think, has very negative influences. . . [It] tends to make people intolerant. If you and I are both praxeologists, and we disagree about whether some proposition or statement is correct, how do we resolve that disagreement? We can yell, we can argue, we can try to find a logical flaw in one another's thing (sic), but in the end we have no way to resolve it except by fighting, by saying you're wrong and I'm right."[11] Presumably, the same difficulty would not arise with regard to empirical calculations. But, here, apparently, it *has*. What to do? Fight? Of course not. Rather, we should check the figures, again and again, until all parties to the dispute agree, at least, to the arithmetic of the matter. If this cannot be done, then unbiased outsiders must be brought in as mediators. We (MBB, 2009) have acted precisely in this way by mobilizing a third party to do just that. Young (2010) has done no such thing, contenting himself with running the calculation again entirely on his own. "My own replication…" This is insufficient. Young should have also asked a third party to run the regressions. The editor and referees of *Economics Letters*, the publisher of Young (2005) were remiss in their duty to see that his statistical calculations were performed accurately. This applies even more so to the editor and referees of the *Review of Austrian Economics*, the publisher of Young (2010); they were even more remiss in their duty to see that this mere statistical calculation was made to the satisfaction of all parties, once this had been called into question by MBB (2009). It is simply a dereliction of duty on Young's (2010) part to avoid the entire issue, and instead "take for granted that MBB's new estimates are correct…"[12]

Young (2010, 6) makes much of the fact that ours, and his, estimates "are not *economically*" different. But that is beside the point. We are now trying to determine

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[11] Cited in Long, 2006, 19; Ebenstein, 2001, 273.

[12] Note the use of ellipsis here.

who is the accurate empiricist, and who is not. If there is no statistically significant difference between the two calculations this means, only, in our view, that Young's (2005) error was not a large one. However, just because (if that is indeed the case) we arrive at economically similar conclusions as does Young (2005), while using *his* data and method, does not by one whit justify the entire procedure, as Young (2010) implicitly would have it. To conclude this would be to ignore all of our MMB (2009) criticisms of Young (2005), apart from his calculational deficiencies.[13]

Young (2010, 6) states: "Quantitatively, the results are different *but not at all in an economically meaningful way* as MBB suggest." This, too, will not do. When we criticize Young (2005, 2010), we offer chapter and verse. That is, cites, quotes. If our dialogue is to continue, it would be far preferable if that author would return the favor, and not content himself with a naked "… as MBB suggest," without any citational clothing.[14]

4. Testing versus illustrating economic theories

We must also take issue with Young (2010) in his rejection of our claim that economic theories are praxeological, that is, apodictically certain. He states (2010, 7): "… I fundamentally disagree with MBB's characterization of economic theories as 'equivalent to mathematical or geometrical claims, such as [. . .] the assertion that the three angles of a triangle sum to 180 degrees' (p. 76) … MBB's example belies their criticism. They offer a quantitative statement regarding the numerical sum of the angles. However, economic theories are nearly always apodictically true only as *qualitative* statements. For example, theory tells us that demand curves slope downward – period; theory tells us basically nothing about the numerical value of a demand curve's slope (in absolute of elasticity terms)."[15]

Unfortunately, we cannot see our way clear to agreeing with Young (2010) on these matters. In MBB (2009) we used the fact that triangles sum to 180 degrees not to illustrate a praxeological law, but, rather, to give an instance of a non economic apodictically certain truth. Since Young (2010) appears interested in *economic* praxeological laws that are qualitative, not quantitative, here are a few, provided by Hoppe (1995):

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[13] We are very grateful to Young (2010, 6) for pointing out to us that it is an error to "take statistical significance to be the same as economic significance." Frankly, this is a point of which we were entirely unaware, and we are delighted that he has condescended to instruct us on such an issue.

[14] Young (2010, 6) takes a swipe at "some Austrian economists' aversion to econometric practice." But, surely, there are *some* mainstream economists with the same aversion, for example, those who specialize in the history of economic thought, in ethics and economics, in religion and economics, etc. Is there to be no appreciation of specialization and the division of labor in intellectual pursuits? In any case, Young (2010, section 5) himself supplies evidence attesting to the fact that this aversion does not apply to all Austrian economists.

[15] The ellipsis in brackets […] are Young's. The other ellipsis in the above quote are those of the present authors. We must now admit error: Young has indeed heard of ellipsis, and knows full well how to use them, contrary to our previous criticism of him. His use of them, however, is unhappily highly selective.

"Whenever two people A and B engage in a voluntary exchange, they must both expect to profit from it. And they must have reverse preference orders for the goods and services exchanged so that A values what he receives from B more highly than what he gives to him, and B must evaluate the same things the other way around.

"Or consider this: Whenever an exchange is not voluntary but coerced, one party profits at the expense of the other.

"Or the law of marginal utility: Whenever the supply of a good increases by one additional unit, provided each unit is regarded as of equal serviceability by a person, the value attached to this unit must decrease. For this additional unit can only be employed as a means for the attainment of a goal that is considered less valuable than the least valued goal satisfied by a unit of such good if the supply were one unit shorter.

"Or take the Ricardian law of association: Of two producers, if A is more productive in the production of two types of goods than is B, they can still engage in a mutually beneficial division of labor. This is because overall physical productivity is higher if A specializes in producing one good which he can produce most efficiently, rather than both A and B producing both goods separately and autonomously.

"Or as another example: Whenever minimum wage laws are enforced that require wages to be higher than existing market wages, involuntary unemployment will result.

"Or as a final example: Whenever the quantity of money is increased while the demand for money to be held as cash reserve on hand is unchanged, the purchasing power of money will fall."[16]

Young (2010, 7) is also in error when he claims that "theory tells us that demand curves slope downward – period." *Austrian* theory does indeed tell us this, but, this is not true of neoclassical theory, which includes the possibility of a Giffen good, yielding an upward, not a down ward, sloping demand curve.[17] This imprecision of language on the part of Young (2010) is unfortunate.

5. The importance of quantitative work for ABCT

Young (2010, 7) "cannot help but conclude that (MBB) would be content if such (econometric analyses of ABCT) were not forthcoming in future research." We are of two minds on this matter. On the one hand, we *welcome* research of the sort provided by Young (2005). It has the very positive effect of focusing professional attention on ABCT, which has been shamefully ignored by the profession as a whole, to say nothing of pundits, commentators, the mass media etc. Indeed, we start off MBB (2009, 73) by characterizing Young (2005) as "a very welcome development…"

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[16] For further references on this matter see: Block, 1973, 1980, 1999; Batemarco, 1985; Fox, 1992; Hoppe, 1989, 1991, 1992, 1995; Hulsmann, 1999; Mises, 1969, 1998; Polleit, 2008; Rizzo, 1979B; Rothbard, 1951, 1957, 1971, 1973, 1976, 1997a, 1997b, 1997c, 1997d, 1993; Selgin, 1988.

[17] For the argument that demand curves always and ever slope in a downward direction, e.g., that the Giffen good is incompatible with Austrian economic analysis, see Salerno and Klein (tba).

We also end MBB (2009, 81) on this very same note: "We welcome Young's econometric test of the Austrian Business Cycle Theory which in our view is one of Mises (sic) and Hayek's tragically underappreciated contributions to the profession."

On the other hand, and, yes, there is another side to this story, all of human action, up to and including economics research, has alternative costs. There is a question in our view as to whether the benefits of this sort of research more than offsets is costs, in terms of alternatives foregone. All throughout this present paper[18] we have had occasion to doubt the benefits of it, not merely as Young has approached the problem, but in general.

But this objection is "merely" a substantive one. In our estimation, the benefits of unleashing econometric regression analysis upon ABCT far outweighs their costs in terms of alternatives foregone. Garrison (2001, 2005) has done yeoman work in focusing the attention of economists on ABCT. Young's contributions, in our view, pile onto this effort, and are thus very salutary ones.

6. Conclusion

So far, we have confined ourselves to criticizing what Young (2010) did say in his article. It is now time to reflect, in contrast, on what he did *not* include in his paper. Specifically, he ignored several of our very telling points against his previous publication in this series, Young (2005). Since this author seems intent upon continuing this dialogue with us (one which we very much welcome), we implore him, in the next go-round, to explicitly consider criticisms we (MBB, 2009) made of his paper of 2005, which he ignored in his response to us of 2010. What are these?

a. The interest rate, or, rather, rate*s*, are only *part* of the story. Missing from Young's (2005, 2010) account is any appreciation of the fact that *credit* conditions would be relevant to interest, and thus, also, to the ABCT.

b. Footnote 34 of our paper MBB (2009) reads as follows: "Young (2005) quite properly utilizes the Hayekian triangle to illustrate ABCT. This has been the well established practice since 1931 within the Austrian tradition. However, Barnett and Block (2006) have severely criticized this procedure."[19]

3. Young (2005, p.2) places quotes around the phrase "Austrian school." We object to this practice in MBB (2009, footnote 10), which states: "We are puzzled by the quote marks around "Austrian school." It would appear to imply that there is no such school of thought as the Austrian. But this is surely mistaken. See on this Rockwell, 1995." Young would hardly place quotation marks around Chicago School, or Virginia School, or Public Choice School. Why the denigrating treatment for the Austrian School?

4. Young's (2005) use of the relatively riskless federal funds rate

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[18] For more on this see below, particularly concerning the originary rate of interest. The issue of proper lags, too, seems to us to be an insurmountable obstacle to empirical research on this matter.

[19] Due to editorial oversight, none of our footnotes appear in MBB 2009. However, we did send Young an electronic copy of our paper, which included all of this material.

5. Young's (2005) time series encompasses not one but several business cycles, and parts of others.

6. Young's (2005) practice of taking the absolute value

7. Young's (2005) assumption that each stage of production will have the same, or at least proportional, number of laborers attached to it.

Amazingly, Young (2010) doesn't reply to *any* of these criticisms we offer in MBB (2005). We thus pass like ships in the night, not really speaking about the same things. This is akin to the "parallel play" that children of 2-3 years old engage in. They are too young to play with each other. Instead, they sit side by side with each other, and each one focuses, only, on his own toys. If discussion of these issues that divide us and Young is to bear serious fruit, that author must engage us more closely.

While we are on the topic of Young's oversights, here are some more. Young (2005) relies heavily on changes of interest rates in his model to generate the ABC. No, that is too gentle a way of putting matters. More accurately, interest rate changes are one of the foundations of his entire argument. No, that too, puts the matter too weakly. Let us try this: the entire lynchpin of Young's model rests on governmental changes in the interest rate. But, this is not quite an adequate portrayal of ABCT. Strictly speaking, and, how else should we speak if we are to get to the truth in this rather complicated issue, what is required is not a Fed induced change in the interest rate, but, rather, one that constitutes a *deviation* between the originary rate of interest, and whatever level it is at which the Fed pegs the actual interest rate. This, it must be admitted, is difficult to corral empirically, since the originary rate of interest is a contrary to fact conditional: it is the rate of interest that *would* have prevailed if there were no government interference with the interest rate; that is, if we were in a pure free market setting. However, we are not. Thus, it is extremely difficult, practically impossible, to get a handle on the relevant rate of interest. Suppose the originary rate of interest would have been 5%, and the fed rate is 3%.[20] Then, the relevant rate of interest called for in the empirical model would be 2%, not the 3% that would be utilized by Young.

Suppose, mirible ductu, that the Fed gets it *right*: it moves the interest rate not only in the direction of where it would have been, based upon the pure time preferences of the populace, but hits the nail precisely on the head and sets it exactly as it would have prevailed under pure free enterprise. Then, according to ABCT, there would be no shift, whatsoever, in the triangle. Thus, Young is simply not justified in assuming that Fed rate he employs misallocates resources, and calls for, eventually, a shift in employment. The ABC is set off only when the Fed sets the interest rate *incorrectly*; that is, differently than would have otherwise prevailed under free market conditions. But Young has no warrant for his implicit claim that in the period 1972:2 to 1993:4 they never, not once, hit the target on the bull's eye in this regard.

[20] We know, we know, that is way too high a rate of interest for the modern era; but, this is just a numerical example to clarify the point being made in the text. A little poetic license is surely justified here. It's getting late, and I'm a bit giddy.

References

Barnett II, William. 1989. "Subjective Cost Revisited," *Review of Austrian Economics*, Vol. 3, pp. 137-138

Barnett, William II and Walter Block. 2006. "On Hayekian Triangles." *Procesos De Mercado: Revista Europea De Economia Politica*; Vol. III, No. 2, Fall, pp. 39-141; http://tinyurl.com/2zkvj7; http://mises.org/journals/scholar/block18.pdf

Batemarco, Robert. 1985. "Positive Economics and Praxeology: The Clash of Prediction and Explanation," *Atlantic Economic Journal*, July, 13(2), pp. 31-27.

Block, Walter. 1973. "A Comment on 'The Extraordinary Claim of Praxeology' by Professor Gutierrez," *Theory and Decision*, June, 3(4), pp.377-387.

Block, Walter. 1980. "On Robert Nozick's 'On Austrian Methodology'," *Inquiry*, Vol. 23, No. 4, Fall, pp. 397-444

Block, Walter. 1988. "Comment on Leland Yeager on Subjectivism," *Review of Austrian Economics*, Vol. II, pp 199-208; http://www.mises.org/journals/rae/pdf/r2_12.pdf

Block, Walter. 1999. "Austrian Theorizing: Recalling the Foundations," *Quarterly Journal of Austrian Economics,* Vol. 2, No. 4, Winter, pp. 21-39.

Buchanan, James M. 1969. *Cost and Choice: An Inquiry into Economic Theory*, Chicago: Markham

Buchanan, James M. 1979. "The General Implications of Subjectivism in Economics," in *What Should Economists Do?*, Indianapolis: Liberty Press

Buchanan, James M. and G.F. Thirlby. 1981. *L.S.E. Essays on Cost*, New York: New York University Press.

Butos, William and Roger Koppl. 1997. "The varieties of subjectivism: Keynes, Hayek on expectations." *History of Political Economy*, 29 (2), pp. 327-59.

Cordato, Roy E. 1989. "Subjective Value, Time Passage, and the Economics of Harmful Effects," *Hamline Law Review*, Vol. 12, No. 2, Spring, pp.229-244.

DiLorenzo, Thomas J. 1990. "The Subjectivist Roots of James Buchanan's Economics," *The Review of Austrian Economics*, Vol. 4, pp. 180-195

Ebenstein, Alan. 2001. *Friedrich Hayek: A Biography*, New York: Palgrave

Friedman, Milton. 1960. *A Program for Monetary Stability*. New York, N.Y.: Fordham University Press.

Fox, Glenn. 1992. "The Pricing of Environmental Goods: A Praxeological Critique of Contingent Valuation," *Cultural Dynamics*, Vol. V, No. 3, pp. 245-259

Garrison, Roger W. 2005. "The Austrian School." *Modern Macroeconomics: Its Origins, Development and Current State*. Snowdon, Brian and Howard R. Vane, eds. Cheltenham, U.K.: Edward Elgar, pp. 474-516.

Garrison, Roger W. 1994."Hayekian Triangles and Beyond," in Jack Birner and Rudy van Zijp, eds., Hayek, Coordination and Evolution: His Legacy in Philosophy, Politics, Economics, and the History of Ideas. London: Routledge, pp. 109-125.

Garrison, Roger W. 2001. *Time and Money: The Macroeconomics of Capital Structure*. London: Routledge

Garrison, Roger W. 2004. "Overconsumption and Forced Saving in the Mises-Hayek Theory of the Business Cycle" *History of Political Economy* vol. 36, no. 2 (summer)

Garrison, Roger W. and Don Bellante. 1988. "Phillips Curves and Hayekian Triangles: Two Perspectives on Monetary Dynamics," History of Political Economy, vol. 20,

Garrison, Roger. 1985. "A Subjectivist Theory of a Capital Using Economy," in O'Driscoll, Gerald P. and Rizzo, Mario, *The Economics of Time and Ignorance*, Oxford: Basil Blackwell, 1985

Gunning, J. Patrick. 1990. *The New Subjectivist Revolution: An Elucidation and Extension of Ludwig von Mises's Contribution to Economic Theory*, Savage, MD: Rowan and Littlefield.

Hayek, Friedrich A. 1931. *Prices and Production*, London: Routledge.

Hayek, Friedrich A. 1979. *The Counter-Revolution of Science*, 2nd ed. Indianapolis, IN: LibertyPress

Hoppe, Hans-Hermann. 1989. "In Defense of Extreme Rationalism: Thoughts on Donald McClosky's *The Rhetoric of Economics*," *Review of Austrian Economics*, 3, pp. 179-214.

Hoppe, Hans-Hermann. 1991. "Austrian Rationalism in the Age of the Decline of Positivism," *Journal des Economistes et des Etudes Humaines*, Vol.2, No. 2; reprinted as

Hoppe, Hans-Hermann. 1992. "On Praxeology and the Praxeological Foundation of Epistemology and Ethics," Herbener, J., ed., *The Meaning of Ludwig von Mises*, Boston: Dordrecht

Hoppe, Hans-Hermann. 1994. "Austrian Rationalism in the Age of the Decline of Positivism," in *Austrian Economics: Perspectives on the Past and Prospects for the Future*, Vol. 17, Richard M. Ebeling, ed., Hillsdale, MI: Hillsdale College Press, pp. 59-96.

Hoppe, Hans-Hermann. 1995. *Economic Science and the Austrian Method.* Auburn, AL: The Ludwig von Mises Institute; http://www.mises.org/esandtam/pes1.asp

Hoppe, Hans-Hermann. 2006. "Austrian Rationalism in the Age of the Decline of Positivism" in *The Economics and Ethics of Private Property: Studies in Political Economy and Philosophy*, 2nd, ed., pp. 347-379; Auburn AL: The Mises Institute

Hülsmann, Jörg Guido. 1999. "Economic Science and Neoclassicism." *Quarterly Journal of Austrian Economics*, Vol. 2 Num. 4, pp. 1-20; http://www.mises.org/journals/qjae/pdf/qjae2_4_1.pdf

Kirzner, Israel, ed. 1986. *Subjectivism, Intelligibility and Economic Understanding*, New York: New York University Press

Long, Roderick T. 2006. "Realism and abstraction in economics: Aristotle and Mises versus Friedman." *The Quarterly Journal of Austrian Economics* Vol. 9, No. 3, Fall, pp. 3–23; http://www.mises.org/journals/qjae/pdf/qjae9_3_1.pdf

Mises, Ludwig von. [1949] 1998. *Human Action,* Scholars' Edition. Auburn: Mises Institute. http://www.mises.org/humanaction.asp

Mises, Ludwig von. 1969. *Theory and History: An Interpretation of Social and Economic Evolution.* New Rochelle, NY: Arlington House.

Mises, Ludwig von. 1998 [1949]. *Human Action: The Scholar's Edition,* Auburn, Ala.: The Mises Institute; http://www.mises.org/humanaction.asp

Murphy, Robert P., William Barnett II and Walter E. Block. 2009. "Testing Austrian Business Cycle Theory? A Rejoinder to Andrew T. Young" *Journal of Business and Economic Perspectives*, Vol. XXXV, No. 2, Fall/Winter, pp. 73-86

no. 2 (Summer), pp. 207-234.

Polleit, Thorsten. 2008. "Mises's Apriorism Against Relativism in Economics." April 25; http://blog.mises.org/archives/008051.asp

Rizzo, Mario J. 1979A. "Uncertainty, Subjectivity, and the Economic Analysis of Law", in Mario J. Rizzo (ed.), *Time, Uncertainty, and Disequilibrium*, Lexington, MA: Lexington Books, pp. 71-90Rizzo, Mario J. 1980. "The Mirage of Efficiency," *Hofstra Law Review*, Vol. 8, pp. 641-658

Rizzo, Mario. 1979B. "Praxeology and Econometrics: A Critique of Positivist Economics," *New Directions in Austrian Economics*, Louis Spadaro, ed., Kansas City: Sheed Andrews and McMeel, pp. 40-56

Rockwell, Llewellyn H., Jr. 1995. *Why Austrian Economics Matters.* Auburn AL: The Mises Institute; http://www.mises.org/etexts/why_ae.asp

Rothbard, M. 1963. *America's Great Depression*. Kansas City: Sheed Andrews. http://www.mises.org/rothbard/agd.pdf

Rothbard, Murray N. 1951. "Praxeology: Reply to Mr. Schuller." *American Economic Review*, December.

Rothbard, Murray N. 1957. "In Defense of Extreme Apriorism," *Southern Economic Journal*, January, 23(1), pp. 314-320.

Rothbard, Murray N. 1971. "Lange, Mises and Praxeology: The Retreat from Marxism." *Toward Liberty*. Vol. II, Menlo Park, CA: Institute for Humane Studies, pp. 307-321. Reprinted in *The Logic of Action One: Method, Money, and the Austrian School.* Glos, UK: Edward Elgar Publishing Ltd., 1997, pp. 384-396.

Rothbard, Murray N. 1973. "Praxeology and the Method of Economics," *Phenomenology and the Social Sciences*, M. Natanson, ed., Evanston, IL: Northwestern University Press, vol. 2, p. 311 342; and *Austrian Economics: A Reader* Vol. 18, Richard M. Ebeling, ed., Hillsdale, MI.: Hillsdale College Press, 1991, pp. 55-91.

Rothbard, Murray N. 1976. "Praxeology: The Methodology of Austrian Economics," in *The Foundations of Modern Austrian Economics*. Edwin G. Dolan, ed., Kansas City: Sheed and Ward, pp. 19-39. http://www.econlib.org/library/NPDBooks/Dolan/dlnFMAContents.html

Rothbard, Murray N. 1979. "Comment: The Myth of Efficiency", in Mario J. Rizzo (ed.), *Time, Uncertainty, and Disequilibrium*, Lexington, MA: Lexington Books: pp. 91-96

Rothbard, Murray N. 1993. *Man, Economy, and State*, 2 vols., Auburn, AL: Ludwig von Mises Institute

Rothbard, Murray N. 1997. "Toward a Reconstruction of Utility and Welfare Economics," in *The Logic of Action: Method, Money and the Austrian School*, Vol. I, Cheltenham, UK: Edward Elgar, pp. 211-254

Rothbard, Murray N. 1997a. "Praxeology as the Method of the Social Sciences," in *The Logic of Action One*. Murray N. Rothbard, ed., UK: Edward Elgar Publishing Limited, pp.28-57.

Rothbard, Murray N. 1997b. "Praxeology: The Methodology of Austrian Economics," in *The Logic of Action One*. Murray N. Rothbard, ed., UK: Edward Elgar Publishing Limited, pp.58-77.

Rothbard, Murray N. 1997c. "Praxeology, Value Judgments, and Public Policy," in *The Logic of Action One*. Murray N. Rothbard, ed., UK: Edward Elgar Publishing Limited, pp.78-99.

Rothbard, Murray N. 1997d. "In Defense of 'Extreme Apriorism'," in *The Logic of Action One*. Murray N. Rothbard, ed., UK: Edward Elgar Publishing Limited, pp.100-108.

Salerno and Klein (tba).

Selgin, George A. 1988. "Praxeology and Understanding: An Analysis of the Controversy in Austrian Economics," *Review of Austrian Economics*, (2), pp. 19-58; and *Praxeology and Understanding*, Auburn, AL: Ludwig von Mises Institute, 1990.

Woods, Thomas E. Jr. 2009. *Meltdown: A Free-Market Look at Why the Stock Market Collapsed, the Economy Tanked, and Government Bailouts Will Make Things Worse.* Washington D.C.: Regnery Publishing

Young, Andrew T. 2005. "Reallocating labor to initiate changes in capital structures: Hayek revisited." *Economics Letters*. Vol. 89, No. 3, pp. 275-282

Young, Andrew T. 2011. "Illustrating the importance of Austrian business cycle theory: A reply to Murphy, Barnett and Block: A call for quantitative study." *Review of Austrian Economics*. 24 (1): 19-28.