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Is Over-investment the Cause of the Post-2007 U.S. Economic Crisis?[1]

Erdogan Bakir[1] and Al Campbell[2]

Abstract

A significant number of left political economists hold that the U.S. Great Recession and subsequent lethargic performance are a crisis of over-capacity that resulted from over-investment. Kotz (2011, 2013) has recently attempted to provide empirical support for this position. Despite sharing an understanding of the crisis very similar to his, the authors find in this paper that a careful examination of his evidence does not support considering this to be a crisis of over-investment.

JEL classification: B50, E22, E32

Keywords

over-investment, Marxian crisis theory, neoliberalism, Great Recession, business cycle

1. Introduction

A position currently popular among a significant number of left political economists is that the U.S. Great Recession and the subsequent lethargic performance are a crisis of over-capacity that resulted from over-investment. While the large majority of people who ascribe to this merely assert it, Kotz has recently put forward a series of papers (2013, 2011, 2010, 2008) in which he has carefully argued economically what he means by over-investment, presented the over-investment as driven by asset bubbles, and provided economic data that he asserts supports his claim.[2] We find his argument for "asset bubble induced over-investment" as the crisis's cause to be particularly important to carefully address because i) it is made in the frame of his general work on neoliberalism which very largely matches ours, and ii) it is logically coherent. The purpose of

[1]We will use the label "economic crisis" in this paper to compactly refer to both the U.S. Great Recession of 2008-2009 and the subsequent anemic recovery.

[2]As he notes in his 2011 paper (2011: 6), his previous two papers only argued the logic of it being a crisis of over-investment, and he only began to provide extensive empirical support of this as the cause of the real sector crisis with the 2011 paper. Consequently our discussion here will be of his 2011 and 2013 papers.

[1]Bucknell University, Lewisburg, PA, USA
[2]University of Utah, USA

Corresponding Author:
Erdogan Bakir, Economics, Bucknell University, 1 Dent Dr., Lewisburg, PA 17837, USA.
Email: erdogan.bakir@bucknell.edu

this paper is to carefully address the theoretical arguments and empirical evidence Kotz presents to assert over-investment.

Section 2 will present Kotz's theoretical and empirical arguments for his conclusion of over-investment as the cause of the crisis. Section 3 will present our arguments for the inadequacy of those arguments. Section 4 will briefly sketch an alternative explanation (which we present at more length elsewhere), one that is very similar to Kotz's but does not rest on over-investment, and then will conclude.

2. The Case for Over-investment as the Cause of the Post-2007 U.S. Economic Crisis

A description of business cycles as consisting of a phase of expanding output and increasing profits that feed back to increase consumer demand, profit expectations, and investment and hence continue the expansion of output and profits, followed by a contraction driven by the opposite dynamics, has been verbally described in Marxism since Marx himself. With the birth of the Marxist-inspired modern empirical work on business cycles (see Weisskopf 1979, 1978), a deeper layer of understanding was added to that basic story. Business cycles have three phases. Starting at a trough, phase A involves an expansion of both output and profits, driven by its own feedback as just indicated. In phase B the profit rate begins to fall, though output has not yet stopped increasing. Then in phase C the reverse dynamics of phase A take hold as indicated above, with falling output and a falling rate of profit feeding back to drive the contraction. As we have shown empirically, this pattern has held in every business cycle (except one) in the United States since good data became available after WWII (Bakir and Campbell 2006, 2015).[3]

Kotz uses this basic frame and then enhances it by adding the effect of asset bubbles to strongly drive upswings in the economy that set the stage for a rapid and sharp decline in the profit rate. He defines his "asset-bubble induced over-investment" as follows:

> Such [an asset] bubble can lead households to engage in debt-financed consumer spending as the bubble increases their paper wealth. As household consumer demand rises above its normal relation to household income, firms produce a growing level of fixed capital to satisfy the elevated consumer demand. A large asset bubble can also stimulate firms to elevate investment spending by inducing a kind of euphoria and optimism about future profit and demand. Unrealistic expectations about future profit and demand can lead to the creation of excess productive capacity, which, if the expectations are indeed unrealistic, will cause the rate of utilization of fixed capital to decline, which depresses the profit rate. Once the asset bubble deflates, as all asset bubbles eventually must, and consumption declines relative to household income while investment expectations reverse, a large amount of excess capacity is suddenly revealed, which can rapidly decrease the profit rate …. (2011: 7)[4]

Kotz's empirical data used to support his general thesis are entirely different in his two papers. Although he mentions in both papers his broad understanding of the crisis as coming from "the entire set of features of neoliberal capitalism" (2011: 6), in his first paper his empirical support concerns the rate of capacity utilization only in the phase B preceding the crisis. His data in the second paper, to the contrary, concern things like household debt, consumer expenditures, and net non-residential investment over, and compared to what came before, the entire neoliberal period. Hence we will need to consider and respond to the two papers separately.

[3]The only exception was the 1980-1982 business cycle whose expansion was so short (due to aggressive government intervention) that phase A went directly into phase C and there was no phase B. Reflecting again the extreme similarity of the frames and data used most of the time by Kotz and ourselves, Kotz notes this same result in passing in this paper (2011: 8).

[4]Two paragraphs later he outlines the process at still greater length.

3. The Case against Over-investment as the Cause of the Post-2007 U.S. Economic Crisis

We argue that the nature of what Kotz presents in his 2011 paper as empirical support for his claim that over-investment is the cause of the crisis is incompatible with his verbal discussion of the nature of the cause. As indicated above and in agreement with our position on the cause of the crisis, Kotz argues the cause is rooted in changes in how capitalism functioned that occurred over the three decade development of neoliberalism. Then more specifically for Kotz (but not for us) the chief structural change brought by neoliberalism (in regard to its crisis) was over-investment over its whole history, yielding permanent excess capacity that was revealed only by the crisis. But while his proffered cause is an asserted particular behavior of the economic system over three decades, his offered support for over-investment as the cause of the crisis is entirely rooted in the system's behavior in phase B immediately preceding the Great Recession. This incompatibility of the nature of the empirical evidence (existing over a short period) with the nature of the economics of the cause of the crisis that he wants the data to support (claimed changes in the structure and specific functioning of capitalism over a long time) makes this empirical evidence inappropriate by its nature for providing the desired support for his thesis.

While this particular incompatible nature of the data and the claimed economic cause is the central problem with this paper, we will briefly indicate another problem and a debatable issue with the magnitude of the change in capacity utilization Kotz presents. Kotz posits in the quote above from his 2011 paper, and repeats there two paragraphs later, "in the late expansion, when the profit rate starts to decline, the decline is primarily due to a falling rate of utilization of fixed capital" (2011: 7). He defines the rate of profit (r) as Profits (P) over Net Worth (NW) (2011: 9), and then decomposes that as follows:

$$r = \left(\frac{P}{NW}\right) = \left(\frac{P}{Y}\right) \times \left(\frac{Y}{K}\right) \times \left(\frac{K}{NW}\right) \tag{1}$$

where Y is net output (GDP) and K is tangible assets.[5] He then takes the second term, output over the means of production, as a proxy for capacity utilization. Using that, he gets that Y/K contributes 71 percent of the change in the rate of profit from 2004-2007, and from that characterizes the Great Recession as a crisis caused by over-investment.

The problem is that output divided by capital stock, the output-capital ratio, is both a non-typical and poor proxy for capacity utilization in this type of work. The standard definition of the aggregate rate of profit and its decomposition in Weisskopf's original work and almost all the literature that has built on it is:

$$r = \left(\frac{P}{K}\right) = \left(\frac{P}{Y}\right) \times \left(\frac{Y}{Y^*}\right) \times \left(\frac{Y^*}{K}\right) \tag{2}$$

(and one could do the same thing with NW instead of K) where Y^* is the potential output.[6] Y/Y^*, the output over the potential output, is the standard proxy for capacity utilization. In Table 1 of Bakir (2015), one of us gave the contribution of each of the three factors to the total phase B

[5]Kotz uses the symbol "TA" for tangible assets, but writes he is including inventories which makes this the usual capital stock (structures plus equipment plus inventories), and so we will use the symbol K that is the standard in this literature.

[6]Since the government does not give potential output data, we use the method of Funke (1986) to estimate capacity utilization Y/Y^*, as described in appendix A of Bakir (2015).

decline for each of the ten post-WWII business cycles. Relevant to our concern here, for phase B of cycle X (from the fourth quarter of 2001 to the second quarter of 2009) capacity utilization contributes only 22 percent of the profit rate decline while 61 percent comes from the fall in the profit share. With this data we can also see what sort of effect it has to use Y/K as a proxy for capacity utilization instead of the standard Y/Y*. Y/K (which = (Y/Y*)(Y*/K)) constitutes 39 percent of this phase B drop in the profit rate, nearly double the 22 percent of the drop indicated by the standard and more appropriate Y/Y*, indicating that using the poorer proxy for capacity utilization seriously upwardly biases its contribution.

The issue open to debate is if it is better to use the profit rate corrected for financial effects as Kotz motivates in his note 3, or the standard one in this literature. As far as we know, the only two papers to carefully detail the incorporation of such financial variables into the profit rate are the seminal work on this by Duménil and Lévy (2004) and our paper (2013) which updated their work past the beginning of the crisis and largely followed their original methodology. For reasons of space we cannot detail here the effects of this change, and we bring this up here only to note that Kotz reverted, without discussing why, back to the standard profit rate in his 2013 paper that we will discuss next.

In 2013 Kotz published a second paper presenting empirical evidence to support his contention that the crisis should be considered a crisis of over-investment. The nature of the arguments for over-investment, and the data presented, were almost entirely different from those in his 2011 paper just discussed.

Before analyzing the arguments in his 2013 paper for over-investment, we want to underline an assertion we made above concerning the extensive agreement of our overall frame for considering neoliberalism and its crisis and his. The following are four points of agreement from this paper that are centrally important to understanding the cause of the crisis.

1) The fundamental cause of the crisis was the particular structure of capitalism (with its particular internal contradictions) that had developed over the previous three decades. That is, the fundamental cause cannot be sought in the functioning of the system immediately before the Great Recession, but rather in the structure of capitalism that had developed at that time. The crisis must be "understood not as a business cycle recession but as a structural crisis" (2013: 284).[7]
2) Along the same lines, the financial crisis of 2007-2008 and the associated deflating of the housing bubble were not the fundamental cause of the crisis, but they were the trigger.
3) Asset bubbles and related excessive debt were important aspects of the specific structure of neoliberalism that allowed it to maintain itself for three decades even as it cut the share of wages in total output[8] (Kotz 2013: 287).
4) The crisis of 2008 cannot be understood as caused by a fall in the rate of profit in the cycle right before it (called "the long-term" in the following quote). Following a large rise in the rate of profit from 1982Q4 to 1997Q3 (57.3 percent by our calculations, quarterly data), "the profit rate decline from 1997 to the next cyclical profit rate peak in 2006 was only 6.5

[7]This is not to say that the Great Recession and the subsequent anemic recovery are not business cycle phases; they of course are. The point is that the depth of the recession and the slowness and weakness of the recovery (this last aspect already increasingly present in the previous two recoveries compared to earlier recoveries) result from the more than three decades of transformations of the institutions and practices (the structure) of capitalism that developed since the 1970s.

[8]Be careful on "the falling wage share" under U.S. neoliberalism. It fell particularly from 1980 to 1998, which was central to the partial restoration of the rate of profit from 1982 to 1996. After that it fluctuated, climbed and fell, consistent with the minimal further gains in the rate of profit, though by 2010 it was below its low point of 1998, consistent with very high profits. See Bakir (2015: Figure 1).

> percent. This renders unconvincing any interpretation of the crisis of 2008 as stemming from a long-term fall in the rate of profit, given the contrast between the mildness of the rate of profit decline and the cliff-like collapse in the real sector"[9] (Kotz 2013: 287).

However, despite these fundamental agreements between ourselves and Kotz that underlie his approach to the crisis over the years, his 2013 paper continues as his 2011 paper to present the crisis as a result of over-investment, notwithstanding that as noted it does so based on arguments and data that are entirely different from those in his previous paper.

> A large asset bubble leads to over-investment in two ways: 1) consumer spending rises relative to disposable personal income over time as households increasingly rely on borrowing to support consumer spending. In response, firms invest to increase their productive capacity in order to satisfy the growing consumer demand. 2) Asset bubbles tend to produce exaggerated expectations of the future profitability of investment, which also leads to expanding investment. (2013: 288)

In this paper, in the section "Evidence for Over-investment as the Cause of the Current Crisis," Kotz presents four pieces of empirical data in support of his thesis. We will consider each of them separately.

In line with the first mechanism indicated in the immediately preceding quote, Kotz provides two pieces of empirical data. His Figure 3 shows that household debt as a percentage of disposable personal income increased rather consistently from about 60 percent at the beginning of the neoliberal period in 1982 to about 125 percent in 2007. His Figure 4 shows that consumer expenditure as a percentage of disposable personal income rose relatively consistently from approximately 86 percent in 1982 to approximately 94 percent from 2005 to 2007. Together, these are intended to support his claim that "consumer spending rises relative to disposable personal income over time as households increasingly rely on borrowing to support consumer spending." We fully agree that this was an important aspect of the continually evolving neoliberal structure, and that his evidence supports that. We argue, however, this in itself is not evidence of over-investment, as the title of the section "Evidence for Over-investment as the Cause of the Current Crisis" asserts it is.

Kotz then turns to two further pieces of data to support his claim for over-investment, capacity utilization and investment itself. There are two problems with his capacity utilization data and their relation to his thesis of over-investment, one logical and the other the values of the data.

Referring to the two channels indicated in the previous quote, Kotz correctly wrote:

> However, the first channel would not itself produce a declining rate of capacity utilization since the rising consumer demand due to rising borrowing based on the bubble is real. However, once the bubble deflates, the ability of consumers to continue borrowing abruptly falls and with it consumer spending, and as a result the productive capacity created to satisfy the debt-financed consumer spending is suddenly found be in excess. (2013: 288)

Unlike in his 2011 paper where he attempted to show a dominant capacity utilization fall in the phase B immediately prior to the Great Recession, in this paper he is, as noted, presenting behaviors over the full course of neoliberalism. As we will discuss next, here he attempts to show there was a capacity utilization effect over all of neoliberalism. But as he argues in this quote, there

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[9]This agreement with Kotz that the crisis of 2008 was not caused by a fall in the rate of profit immediately preceding it of course does not contradict our position (and we believe Kotz's, as we read him, as we indicate in point 1 of agreement above) that a fall in the profit rate post-1966 paved the way for the crisis in the following sense. As we have discussed in several places elsewhere (*e.g.* Campbell and Bakir 2015; Bakir 2015), the fall in the rate of profit post-1966 was the central cause for capital to make the structural changes (that many conservatives had been advocating for decades but had been rejected until then by capital as a whole) that yielded the neoliberal structure which was the fundamental cause of the 2008 implosion.

should not be any effect on capacity utilization from neoliberalism's substitution of debt-based demand for its sharply reduced growth of wage-based demand, as long as the increased debt really generates demand. And as Kotz has argued both in this paper and in all his work over the years, neoliberalism did exactly that. Hence the first channel that he has carefully described for how "a large asset bubble leads to over-investment" (2013: 288) is logically irrelevant to the actual performance of capacity utilization over the decades of neoliberalism. Of course, as he also notes here, when consumer demand finally falls as the crisis hits, one suddenly has excess capacity. But that is true of any crisis caused by anything! When a crisis defined as an interruption of the circuits of capital hits, some capital and labor that were previously employed are suddenly idled. This gives a drop in the rate of capacity utilization, which has nothing to do with any "long-term over-investment." This then makes the first two pieces of data he offers in this paper, household debt and consumer expenditure, irrelevant to his thesis of over-investment as the cause of the crisis.

Further, the values of his capacity utilization data themselves do not make a convincing case that there was over-investment over the course of neoliberalism. He presents capacity utilization rates of 81.7, 79.7, and 79.2 percent for the neoliberal years 1990, 2000, and 2007. But the capacity utilization rate in1960 was 80.1 percent. This does not make a convincing case of a drop in capacity utilization from over-investment over the course of neoliberalism. His graph does have the years 1969 and 1973 with capacity utilizations of 86.6 and 87.7 percent. But 1969 and 1973 are known to have been part of the years when the U.S. economy was trying to supply "guns and butter" (and not raise taxes), the Vietnam War and improved domestic welfare particularly for the poor and disadvantaged. Hence a drop from those levels cannot be ascribed to neoliberalism. In any case, the nearly identical values to 1960 makes this data not indicative of a significant drop in capacity utilization as a characteristic of neoliberalism.

The final data Kotz offers in this paper to support his thesis of over-investment are investment data themselves. His Figure 6 actually shows a lower rate of investment (as a percent of the fixed assets) over neoliberalism than before it, which as he notes seems "odd" to refer to as over-investment. He therefore goes on to say: "'over-investment' does not mean that the absolute rate of investment was unusually high; over-investment refers to the rate of investment relative to a sustainable level of final demand" (2013: 291). He then shows that the rate of the growth of capital stock was higher in the period 1979-2007 than from 1948-1973, compared to either the rate of growth of GDP, the rate of growth of consumer spending, or the rate of growth of value added by the nonfinancial corporate business sector.

This increase in the amount of investment associated with (necessary for) a given rate of growth is indeed interesting, and is closely related with the extensive discussions for decades (above all in mainstream circles) under the headings of the falling return to (real) investment and the falling efficiency of capital. However, to be the cause of the crisis, a channel must be indicated by which it generated the claimed effects. While he is not crystal clear on this, the arguments, including in particular the quote we have included, indicate that Kotz has in mind that this will generate excessively low capacity utilization which will cause a reduction in investment. But again the data he has in his paper do not support that. We just saw that capacity utilization prior to the crisis was not low compared to its 1960 value. Similarly, we saw actual investment under neoliberalism was not high as implied by the label "crisis of over-investment." To the contrary, its level as a percent of fixed assets from 1982 to 2007, very roughly 3 percent from his Figure 6, was actually low compared to its own performance in the pre-neoliberal period of 1966 to 1982 when it was very roughly 4 percent. In addition, it was generally already falling over the 1966 to 1982 period as the initial aspects of neoliberalism developed. It was also not high under neoliberalism in comparison to the "Golden Years" from 1950 to the early 1960s, which like the post-1982 period averaged about 3 percent. Notwithstanding that his observation of a higher ratio of the rate of investment to the rate of growth of the economy (and the other growth indicators he gives) over the neoliberal period than before it is completely correct, he has not indicated how

that "over-investment" could cause either the Great Recession implosion or the subsequent lethargic performance. Further, the data he provides actually suggest it could not have by the channels he implies, in the sense that the data resemble the 1950s and beginning 1960s where nothing similar resulted.

4. Conclusion

The surface explanation of the trigger for the Great Recession is widely agreed on by many liberals and radicals: the housing bubble burst, credit in the housing market froze up, that spread to a credit freeze in the entire financial system, and that then spread to the real economy. Similarly there is wide agreement on why the recovery has been so slow and weak. On the one hand many financial institutions sharply cut their consumer lending. On the other hand, consumers became concerned with their excessive debt levels and started paying down existing debts. Both of these reduced consumer demand. Further, despite incredible liquidity being pumped into the financial system by the government, financial institutions did not use this to increase their loans to productive capital as was (allegedly) hoped. Again the reason came from both the push and pull sides. On the one hand productive enterprises were not looking to expand their output in the face of the falling consumer demand just indicated. On the other hand big financial institutions could get higher returns in national and especially international financial markets than they could get making loans to domestic productive capital, and so that is where the government infused money that was not simply retained but was loaned out.

We agree with Kotz that the Great Recession and subsequent lethargic economic performance were the result of the structural changes to capitalism that occurred over the preceding three decades. Among some of the central shifts are the rising gap between profits and wages (the increased aggression against the value of labor-power), the financialization of the economy and in particular the increasing risk-taking behavior of finance, asset bubbles, excessive personal and financial sector debt, the shareholder-value enterprise management paradigm, international "free trade" (and above all elimination of restrictions on the movement of capital under this label), "inflation targeting" central banks, sweeping privatization of former government services, a reduced role for government provision of many services (including the increased power of private capital to sue governments when they take welfare actions that impinge on that capital's potential profits), "deunionization," and beyond that a general demobilization of the working class. These gave rise to their own contradictions in the process of the continual movements of capital through its circuits, and these contradictions eventually manifested themselves by disrupting the particular structure of capitalism that had evolved by 2007. What we disagree with, and find misleading for understanding neoliberalism and its implosion and subsequent anemic recovery, is that "over-investment" was an important ongoing structural characteristic of neoliberalism, and beyond that somehow the cause of the Great Recession and its aftermath.

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Author Biographies

Erdogan Bakir is an associate professor of economics at Bucknell University. His research focuses on political economy and macroeconomics.

Al Campbell is an emeritus professor of economics at the University of Utah. His research focuses on the functioning of capitalism and its current dominant form of neoliberalism, and issues in building a socialist alternative.