Tax Cuts, Economic Growth and the Neoclassical Model: A Comment

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The stated economic policy objective of the Trump administration has been to raise the rate of economic growth on a sustained basis, from the 2 percent or so characteristic of the post-crisis expansion to at least 3 percent and if possible beyond. Such rates are not historically remote: the economy averaged over 3 percent real growth in 2005-2006 and over 4 percent real growth in 1997-2000; it has already grown over 3 percent in each of the past two quarters. The question is whether and how such rates might be sustained.

Even though the headline unemployment rate is now low, we can dismiss the objection that the economy is at full employment and constrained by labor supply. The employment-to-population ratio has recovered from a low of about 58 percent to just over 60 percent, but remains 3 points below its pre-crisis level in 2007 and 5 points below the peak achieved in 2000. The population is older and many have taken early retirement – a possibility opened to them by Social Security and Medicare – but many who were forced to retire might be lured back to work for pay. Also, net immigration has slowed and if there were strong demand for labor, it would resume.

Since infrastructure investment and trade protection are (so far as one can tell) not happening, the entire Trump and Republican strategy for generating growth now boils down to the tax law, which in turn boils down mainly to a major cut in corporate profits tax, plus accelerated depreciation (expensing) of capital investment. The effect of this is two-fold: a fiscal policy effect on aggregate demand and a supposed "supply-side" effect on the productive capacity of the economy.

The net tax reductions are on the order of 0.9 percent of GDP annually in the first four years. How this will translate into spending depends on how much of the additional private income is spent in a given year, and on the fiscal multiplier to be applied to that spending. If the figures be 0.6 and 1.5 – generous guesses – the tax cut would thus add nearly a percent to the GDP growth rate initially. The effect is one-time only: after the initial climb to a higher GDP, there is no further impact on the growth rate. If the tax cuts are offset, in whole or part, by automatic reductions in Medicare or cuts in Social Security benefits, or by cuts in state and local government spending, then the net fiscal effect is less by the amount that those cuts affect public and private purchases of goods and services. The calculation assumes no reaction from the Federal Reserve – a problematic issue. Still, on this account the tax cut could keep the real growth rate above 3 percent in 2018 and perhaps also in 2019.

For a long-term view – indeed for any cumulative effect on the growth rate – we turn to the analysis by Robert Barro in *Project Syndicate*, and to the response by Jason Furman and Lawrence Summers. Barro's claim is that the tax cut will yield an annual boost of about 0.3 percent to the growth rate, cumulating over ten years to a gain of 2.8 percent in *per capita* GDP.[1] The debate is rooted in the neoclassical growth model, which Barro advocates and Furman and Summers accept. They criticize not the model but only Barro's application of it. Their strategy is brilliant, insofar as it narrows the killing ground. The comparison of Barro's hypothetical business tax cut to Trump's actual one shows that in terms of his own model Barro overstates the effects by "an order of magnitude." Through various corrections and adjustments, a modest effect is reduced to a tiny one.

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1 As a preliminary point, while Barro claims that a cross-country empirical analysis supports his theoretical prediction, this claim is false: his "point estimate" is not different from zero at any conventional significance level.

This approach leaves the core theoretical assumptions behind Barro's gloss on Trump's purposes unchallenged. In demolishing Barro's claim for an important effect of this tax cut on long-term economic growth, Furman and Summers concede that a better tax cut – one with *more* impact on business profits, mainly through even more generous expensing – would have done a better job. I believe this inference to be false, and not only false, but dangerously restrictive, and misleading to future policymakers in future debates over tax law.

What does Barro's model even mean? He defends it mainly by reference to the common practice of economists. Thus the change effected by the tax cuts in the "user costs that businesses attach to investment" he equates to the "marginal product of capital" in the "economists' most popular model of economic growth." He then takes an elasticity of the "capital/labor ratio to user cost" of 1.25 (disputed by FS), in a "Cobb-Douglas production function (commonly used by economists)." This is all short-hand for "don't bother us with quibbles over theory."

Then come the numbers. Based on the scale of the tax cuts and the elasticities, Barro calculates a 25 percent rise in the long-term capital/labor ratio for non-residential corporate structures (for instance, bank buildings, shopping malls) and 17 percent for corporate equipment – yielding, as a guess, a 20 percent increase overall, or about $10 trillion additional "capital stock" on a base reported to be about $50 trillion. After a modest downward adjustment he translates this to an increase in long-run GDP of 7 percent, or about $1.2 trillion on the current base (about $17 trillion, in 2009 dollars). In other words, a net tax cut of $1.5 trillion over the first ten years – with just $644 billion for business – is expected to generate almost a six-fold gain (eventually) in capital stock, and eighty cents on the dollar in real output after about 14 years.[2] Truly this is a miracle of loaves and fishes. Furman and Summers dispute the numbers (and yes, they are preposterous) but still call the underlying model "sensible." At Harvard, a code of *politesse* seems to prevent the calling of things by their real names.

Let me try to explain Barro's model in plain English. By cutting taxes on profits, the after-tax productivity of the capital stock rises. Businesses are then induced to create more capital, until such time as the marginal product of capital falls back to its long-run equilibrium value, given by the discount and depreciation rates. The increment to capital increases total output along a production function, on the maintained assumption that labor is fully employed. The increased output goes to capital, and the wage share in output declines.[3]

But is it correct to argue that a rise in the after-tax rate of profit will generate a shift toward more capital-intensive modes of production? There is no good reason to think this. The argument rests on two confusions. One is between after-tax profitability of *existing* activity and the prospective profitability of *new* investment. Furman and Summers understand this, which is why they favor more expensing (which applies only to new capital investment) and less reduction in corporate tax rates. But the issue is deeper than that. The second confusion is between the expected profitability of new investment and the resulting "capital/labor ratio."

The Barro model treats capital as homogeneous, allowing only for the distinction between structures and equipment. New technology plays no role. But new investment is characteristically *different* from what was there before. Once profits are in view, firms choose the best way to proceed. The specific

2 It is not clear that Barro knew the final size of the corporate tax cuts, as the CBO letter post-dates his article.

3 And because in Barro's world there is "Ricardian equivalence" the initial shift to investment must be paid for, either directly via wage cuts or higher taxes on labor or spending cuts on social programs, or indirectly by borrowing and eventual interest and principal repayments on the debt. Nothing comes from nothing, in neoclassical economics.

mix of structures, equipment and labor will depend on the state of technology at the time. Businesses normally do not control this. In the digital age (as I have argued, see Galbraith 2014), new technologies save *both* capital and labor. A lower relative price of capital equipment may not mean more relative use of "capital." Actually, if the price of machines (say, of computers or touch screens) or of construction falls, while wages do not, the resulting business operation may be (or appear to be) more labor-intensive than it was before. That appears to be the present situation.

Put another way, the notion that businesses can freely choose to substitute (say) structures for labor, increasing the capital/labor ratio and still get the desired output at the desired cost, is the neoclassical fallacy. The entire point of building a structure is to fill it with workers and machines – whether one is talking about a hospital, a factory or a big box store. The expensing provisions are a way to reduce the price of new structures, to be sure. But even if structures are made cheaper, adding additional structure without the machines or workers doesn't increase output or productivity – it merely wastes space.

These days, because new electronic machinery is relatively cheap, business investment spending is low as a share of GDP, and the burden of sustaining growth has shifted toward consumption, which is why growth rates since the crisis have been both lower and more stable. Because new machinery is physically compact, and because it displaces office labor, business structures are less necessary – than for instance in the automotive age or the golden age of insurance and banking. Because much equipment is now imported, a dollar's investment is offset by a dollar of imports, the effect on GDP is (in that case) nil, and the multiplier is felt in the country that produces the capital goods. Tax law isn't going to change these facts. And so investment, even if it occurs, isn't likely to raise the "capital/labor ratio" or, on that account, the real rate of growth.[4]

Barro's claims are absurd, as Furman and Summers show. But the fault lies at least equally in the preposterous model, as in the preposterous use of it. The alternative is an analysis of political economy and business behavior; the fact that such arguments are less certain in their claims, is a good thing.

In the real world, businesses invest for two reasons: to expand production and to cut costs. The first reason requires confidence in the future growth of sales. The tax bill will boost sales initially – there will be a fiscal effect – but many provisions are aimed squarely at middle class purchasing power and upper-middle class home values and economic security, and at the ability of state and local governments to maintain tax effort and public services, hence a climate favorable to growing private consumption and private investment. The vast upward redistribution is bound to depress spending! Enabling businesses to keep a larger share of their cash flow does nothing for this outlook, which is also clouded, for the present, by the long duration of the current expansion so far.

The effect of Federal Reserve action in response to the tax bill can only compound the uncertainty. We do not know whether the central bank will react. We do not know by how much. And we do not know for sure even the direction of the effect on the economy. There are circumstances – the February, 1994 rate rise was one – when increasing interest rates helped to set off a long-term business boom, by pushing the banking sector out of safe instruments and back into commercial and industrial loans. But that was a moment when the technology revolution loomed, and banks needed a push to move them from reliance on a steep yield curve. This pattern seems unlikely to repeat at the present time.

More likely, if the Federal Reserve does react by increasing the pace of rising interest rates, the dollar

4 BFS might argue that the new capital is "more" because it is "better," and by applying astringent price deflators to capital equipment, one can indeed blow up the "real quantity" as much as one likes. This doesn't change the fact that the actual cost of capital equipment, and the share of investment in output, measured in dollars, may both be falling.

will rise. Imports of capital equipment will become even more attractive, substituting against domestic capital goods to the detriment of growth. A funding crisis in the rest of the world (hinted at by some analysts) would produce a flight to quality and increase these effects. A financial crisis, exposing the weak position of some of the world's largest banks, would likely end growth altogether. This prospect is not likely to encourage risk-taking; however financial risks play no role in the Barro model.

It's possible that there will be a boost to commercial building. Some firms may decide that they must expand or lose market share; this is what Schumpeter called co-respective behavior, and its potential should be allowed for. There is the further thought that favorable tax treatment on structures will enable large companies to muscle in on the remaining market share of small retailers, restaurants and other service providers. In that event, we will a see a bubble, followed by a bust, in commercial structures.

This possibility is not negligible. The architects of the tax cut are surely aware that the last two economic expansions – in the late 1990s and in the mid-2000s – were both bubbles generated by co-respective behavior on the part of technology investors in the first instance and of speculators in corrupt mortgages in the second. A new bubble will reap short-term applause and the political benefits. But it is not sure that anyone with this motivation is actually present in the administration or among those who designed the tax bill – apart, of course, from the President and his immediate family, along with the real-estate investors known to be present in the Senate.

Otherwise there are two possibilities. One is that there will be a surge in after-tax corporate cash flow, in which case the money will be diverted – "stolen" is too strong a word, except in some large social sense – to executive compensation, stock buy-backs and (perhaps especially) into real estate, notably the conversion of the American housing stock from no-longer-tax-advantaged ownership to rentals. A larger and possibly more diverse group of oligarchs may emerge. Their spending patterns will register in the real GDP growth rate, but modestly and only for a short time. At some point, a bust will follow.

The other possibility is that with the tax cuts in hand, corporations will *curtail* their investments. They may figure on a general slowdown (following the initial effect) in consumption, and state/local government cutbacks under pressure from constituents who can no longer deduct state and local income taxes – among other things pushing states and localities to raise local sales taxes to compensate. In this case, the Kaleckian adage, "capitalists get what they spend" will apply. After-tax profits may *not* rise, at least not by much, and the oligarchs will stay roughly as they are, fat and happy while doing less, rather than more. The cost will be borne by the middle classes who have mortgages and homes they might like to sell, and state and local income taxes to pay, and by the poor, as always, who will suffer from higher sales taxes, spending and service cuts, and, of course, from unemployment.

What did you expect? This after all isn't just Trump's bill. It's the pure product of the Republican donor class, and they've known what they wanted, all along.

References

Robert J. Barro, "How US Corporate Tax Reform will Boost Growth." Project Syndicate, December 13, 2017

James K. Galbraith, *The End of Normal: The Great Crisis and the Future of Growth*, Free Press, 2014.

Jason Furman and Lawrence Summers, "Robert Barro's Tax Reform Advocacy: A Response," Project Syndicate, December 15, 2017

Other references to press articles at the links.

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