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Deleterious Effects of Sustained Deficit Spending

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by Edmund Phelps[*]

Let me first say that I am in awe of Joe's vast contribution to economics. His ability to build a model with which to analyze some behavior, its causes and effects, is phenomenal. I am going to talk about a disagreement I have with him in *macroeconomic policy* – his choice models – but that takes *nothing* away from my admiration for his gigantic contribution to the stock of economic knowledge.

It's good to have a session on macroeconomics in view of the long slide in almost all the economies of the West. Labor force participation rates of men have suffered a particularly serious decline: In the U.S., the rate slid from nearly 94% in the mid-'60s to around 86% around 2005 and around 84% now; in Italy, from nearly 89% in the mid-'70s to nearly 85% in the mid-'80s and 81% around 2005; in France, from 86% in the early '80s to around 83% in 2005.[†] Wage rates have slowed in one country after another since the 1960s – first here and later in most of Europe. What is at issue is the *cause* and *cure*.

Joe Stiglitz says that the U.S. wage slowdown results from a weakness of "demand" – brought on by increases in inequality. Larry Summers speaks of "secular stagnation," which he says results from a

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[*] Author of *Mass Flourishing* (Princeton, 2013) and "What's Wrong with the West's Economies," New York Review of Books, Summer Issue, 2015, pages 54-56.
[†] Immigration into France and more strongly Germany has turned participation rates around. But one suspects the participation rates of the native population have declined.

deficiency of "demand." They and many other economists see increases in *deficit spending* to be a solution to the losses of prosperity.

Apparently they are both relying on *Keynesian* theory – the family of Keynesian models. But, as I heard Bob Solow tell MIT students (in a course I had the honor of teaching with him in 1963), macroeconomics is a *collection* of theories. The Keynesian theory is just one of *several* theories. (In a little book of lectures I identified 7 schools of macroeconomic thought.) Joe knows this, but Keynesian theory evidently dominates his thinking on macroeconomic matters.

In the 1960s – a decade of extraordinary creativity, as Duncan Foley once commented – a number of macroeconomists started to venture away from the Keynesian doctrine that had grown dominant in the 1940s and 1950s. As you know, some upstart theorists built "microeconomic foundations" for a link from demand to employment dynamics. In arguing that the level of aggregate demand had no sustained effect on aggregate activity, they were subversive of Keynesian activism in monetary policymaking. Another line of new models implied that sustained deficit spending was not just ineffective at sustaining high employment: It was actually damaging for employment – and not only employment.

I don't know who was first. I recall that sometime in the '60s Franco Modigliani showed a diagram in which the public debt creates a wedge between wealth and capital. A helicopter drop of public debt adds to wealth and depresses capital. Franco argued that the *loss of capital* reduced labor productivity, thus wages and maybe employment.

I also recall my 1965 book, *Fiscal Neutrality toward Economic Growth*.[‡] In the model there, public debt makes people feel richer than they are really are – they own debt on top of their ownership of capital – thus inducing households to consume more than they would have had they understood their lifetime consumption possibilities had not been increased by the public debt they held. My emphasis was on the corollary that, feeling richer, they cut back their supply of labor – entering the labor force later or retiring sooner. Of course, people might have been over-saving and over-working out of anxiety before the public debt was created. But, absent such anxiety, I concluded that public debt creation is damaging for our economic health.

In the second half of the '60s Ken Arrow and my former student Mordecai Kurz published several papers on fiscal policy, culminating in their 1970 book *Public Investment, the Rate of Return and Optimal Fiscal Policy*.[§] They note that the "viewpoint" in my book is "similar" to theirs while noting that my book "emphasizes the labor-leisure margin" and their book the "saving-consumption margin." (p. 180).

There was another difference. I had worked within the framework of a finite-lifetime saving model while they worked with Frank Ramsey's infinite horizon. So in my work the question didn't arise of whether *infinitely-lived* worker-savers would be led to save less and work less by the increase of public debt. There was another unanswered question: I argued from my model that government *capital* expenditures ought to be *tax-financed,* just as the government's current expenditures ought to be tax-financed. I said that if the government

[‡] Edmund Phelps, *Fiscal Neutrality toward Economic Growth*, (McGraw-Hill, 1965).
[§] Kenneth J. Arrow and Mordecai Kurz, *Public Investment, The Rate of Return and Optimal Fiscal Policy* (Johns Hopkins, 1970).

creates an uncrowded bridge, it's right to deficit-finance the construction and service the debt with tolls on use of the bridge. But if in a rainy country the government creates sunshine with no possibility of user fees, there is no such case for deficit financing. The sunshine project ought to be tax-financed. Jim Tobin thought I was wrong about that – at least in Frank Ramsey's infinite-horizon framework.[**]

So what is the answer? Would even the super intelligent *Ramsey savers* be led to under-save and under-work when the government *deficit-finances* its expenditures – even investment expenditure? I take an extreme case in which the state is engaging in sustained investment in some sort of public capital good – one that does not get into households' utility functions and production functions.

In the Appendix I show that, even in the steady-growth state, a *wedge* has been driven between *wealth* and *capital* in two ways: First, the steady-growth deficit *shifts up* the steady-growth path of private wealth. Secondly, the steady-growth public capital investment, in crowding out private investment, *shifts down* the steady-growth path of private capital. See the steady-state equations. In the phase diagram, the stationary locus of normalized wealth is shifted *rightward* and that of normalized capital per worker is shifted *leftward.* The saddle path in terms of normalized wealth is shifted up (and the corresponding path of normalized capital is shifted down). If the economy would have been in the Golden Rule state or short of that, the bloating of wealth would be harmful and so would the crowding out of private capital. In a richer model, greater unemployment and reduced innovation might result.

[**] Our plane landed without our reaching an agreement. We never discussed the issue again.

Appendix: Incidence of Government Spending and Public Debt

$$F(K, \Lambda L) = \Lambda f(k, L) \text{ where } k = K/\Lambda$$

$$\mathcal{L}_i = \max\{ u(C_i) \cdot z(1-L_i) + Q_i[VL_i + rB_i - X_i - C_i]\}$$
$$\text{where } u(C_i) = C_i^{1+E}/(1+E) \text{ and } z'(1-L_i) > 0, z''(1-L_i) < 0.$$

$$\dot{w} = f(k, L) + rb - x - c - \lambda w, \quad w = W/\Lambda$$

$$\dot{k} = f(k, L) - g^I - c \qquad - \lambda k, \quad g^I = G^I/\Lambda$$

$$z(1-L_i)u'(C_i) = Q_i, \quad u(C_i) z'(1-L_i) = Q_i V$$

$$z(1-L_i)u'(c) = q_w, \quad u(c) z'(1-L) = q_w v, \quad \frac{\dot{q}_w}{q_w} = -(r-\rho) - E\lambda$$

$$\text{where } c = \frac{C}{\Lambda}, \quad v = \frac{V}{\Lambda}, \quad q_w = Q\Lambda^{-E}, \quad \lambda = \dot{\Lambda}/\Lambda, \quad E < 0.$$

Suppose $\Lambda = e^{\lambda t}$. In steady-growth state,

$$\lambda \bar{w} = f(\bar{k}, \bar{L}) + \bar{r}\bar{b} - \bar{c} - \bar{x}$$

$$\lambda \bar{k} = f(\bar{k}, \bar{L}) - g^I - \bar{c}$$

$$\bar{w} - \bar{k} = \frac{1}{\lambda}[\bar{r}\bar{b} - \bar{x} + g^I] \quad (>0)$$

$$\bar{r} = \rho - E\lambda$$