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does the debt matter? comments

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The Point

The question at issue in the *Ricardian equivalence* debate is whether a given path of public expenditure is best financed by raising taxes or issuing debt. To begin with, it is important to understand the “traditional view” regarding the economic effect of budget deficits. In fact, there are two traditional views of the consequences of postponing taxation. The first is Keynesian and deals with the short-run effect (at the business-cycle horizon) of budget deficits. The second is neoclassical and related to the long-run effect of postponing taxation in a growth model of capital accumulation.

The two traditional views provide a completely different diagnostic. In the short-run Keynesian world, postponing taxation stimulates the economy and creates wealth. Tax cuts fuel consumption and increases aggregate demand. Because the economy is not at full employment, the increase in aggregate demand generates its own saving and translates into higher capacity utilization, output and employment.

In the long-run neoclassical world, however, postponing taxation is bad: it “crowds out” saving, keeping it from going into capital accumulation. In general, financial markets direct private saving toward two ends: private investment and the financing of the government’s budget deficit. Because the economy is at full employment, increasing budget deficits by cutting taxes permanently reduces

living standards by reducing the supply of capital available to the economy. In the 1970s, these two alternative traditional views cohabited comfortably in a kind of neoclassical synthesis of Keynes: when the economy was not at full employment, the Keynesian view held; when it was at full employment, the neoclassical view prevailed.

Robert Barro's famous 1974 paper, "Are Government Bonds Net Wealth?" was, to say the least, a path-breaking departure in this time-honoured macro-economic debate. It succeeded in contradicting *both* traditional approaches. According to Barro, increasing public debt is exactly equivalent to raising taxes. Postponing taxation is therefore neutral. For intertemporally-maximizing, far-sighted agents, today's public debt just equals the present value of the future taxes required to pay it! So budget deficits are neither expansionary in the Keynesian way nor detrimental to capital accumulation as they are in neoclassical growth models. Government bonds are not net wealth.

In 1976, James Buchanan pointed out that Barro's analysis was "Ricardian" since it appears, without the math, in the writings of the great classical economist, David Ricardo (1772–1823). The alleged equivalence between debt financing and raising taxes therefore came to be known as *Ricardian equivalence* (RE).

Synthesizing Johnson's Synthesis

The great merit of David Johnson's pedagogical paper is that it focuses on the effect of government deficits in a small, open economy like Canada's. To synthesize his synthesis, let us consider the following well-known identity from national income accounting:

$$Y = C + I + G + NX = C + S + T$$

Y is national income. C is consumption, I investment, G government spending on goods and services, T government tax revenues and NX the trade balance, that is, the difference between exports and imports. The left-hand side of the equation is the overall demand for goods and services produced in the economy, which is made up of consumption demand, investment demand, demand from the government and demand from foreigners, while the right-hand side shows how these demands are financed by households: they spend on consumption directly themselves; they provide savings that can be used by investors, and they pay taxes that can be used by governments. National income accounting implies that the left-hand side equals the right-hand side. When changes in inventories are included in I, then simple arithmetic leads to the following basic relationship:

$$G - T = S - I - NX$$

The problem under study here is the substitution between taxes and debt for a given path of government expenditures. In a small, open economy, the domestic interest rate is determined abroad and it is convenient, for the sake of simplicity, to assume that investment is fixed. Consequently, both G and I are given in the experiment. Taking first differences (Δ) on both sides of the equation (and $\Delta G = \Delta I = 0$ since they are constant), we then get:

$$-\Delta T = \Delta S - \Delta NX \quad (1)$$

Postponing taxation by issuing debt ($-\Delta T$) either increases saving (ΔS), produces a trade deficit ($-\Delta NX$), or—and this is important for what I want to conclude about David Johnson’s paper, *results in some combination of the two*. If we abstract from interest payments on net indebtedness, then the trade deficit, $-\Delta NX$, equals foreign borrowing, another term for which is “the capital account surplus.” In effect, the increased debt is financed either domestically by increased saving or abroad by increased foreign borrowing, or, again, *by some combination of the two*. With RE,

$$-\Delta T = \Delta S \quad \text{and} \quad \Delta NX = 0$$

Johnson’s paper shows that this RE prediction that ($-\Delta T$) and ($-\Delta NX$) should be independent appears to be rejected by Canadian data. Government deficits tend to coincide with current account deficits, a fact popularly known as the twin deficits problem. The rise in Canada’s public debts between the mid-1970s and the mid-1990s may well account for the increase in its international indebtedness during the same period. Unlike in a closed economy, however, the negative long-run effect of debt financing is not on capital accumulation but on the difference between domestic and national product and income. With a rising public debt, a larger proportion of Canada’s capital stock comes to be owned by foreigners. Our national income falls below our domestic product because we must send profits and interest to foreigners to service our borrowing from them. Because of this, Canadians are poorer. Johnson estimates the effect to be around 5 percent of national income.

The Other Side of the Story

I completely agree with Johnson’s analysis. The pure RE proposition does appear to be rejected by Canadian data. But this should not be surprising

because what Johnson is testing by looking at the relationship between public deficits and the current account is whether the RE proposition holds at 100 percent, whether, in the spirit of equation (1), $-\Delta T$ is *exactly* offset by ΔS .

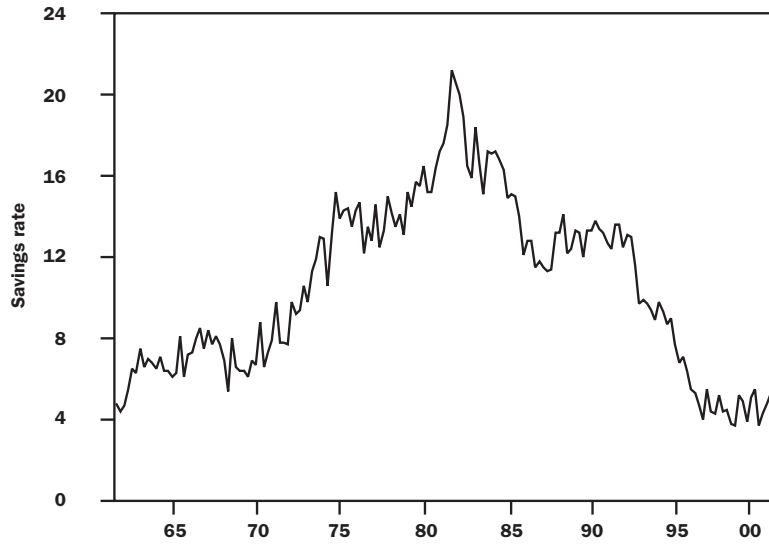
Compared to the relative simplicity of economic models, the real world is extremely complex. No model applies perfectly to the real world. Conversely, no complex economic phenomenon could be fully explained by just one economic model. Only theoretical zealots claim that a model explains 100 percent of the real world. Johnson is not a theoretical zealot and he reports mixed results for empirical analyses regarding the RE proposition for Canada and various countries. For instance, according to Normandin (1999), a one-dollar increase in Canada's budget deficit generates an increase in the current account deficit of between 19 and 67 cents. In the spirit of equation (1), this means that the increase in $-\Delta T$ is matched between 33 and 81 percent by an increase in ΔS . Similarly, in a multi-country study, Bernheim (1988) estimated the effect of budget deficits on current account deficits to be around 30 percent, which implies that budget deficits would be about 70 percent offset by an increase in domestic net saving.

Johnson concludes his paper by saying that the link between budget deficits and current accounts follows from the fact that the RE proposition is not valid. He is certainly correct that the RE proposition is not verified at 100 percent. But according to the results he himself reports, it is verified at between 33 and 81 percent (Normandin) and at 70 percent (Bernheim 1988). If we believe these numbers, especially the higher-end estimates, we should conclude that RE is a very useful tool for understanding the evolution of such important macroeconomic variables as saving and consumption.

Consider an example. The evolution of the savings rate of Canadian households and unincorporated business over the period 1961–2002 is reported in figure 1. At first sight, the message emerging from this graph is frightening for the policy maker. Since the mid-1980s, Canadians have been getting poorer. In the early 1980s, the savings rate was above 15 percent. In recent years it is just above 4 percent! Put those numbers in a standard model of economic growth and such a sharp decrease in the Canadian savings rate will have a tremendous negative effect on the standard of living in the long run. What are the policy implications? We should stimulate saving in Canada.

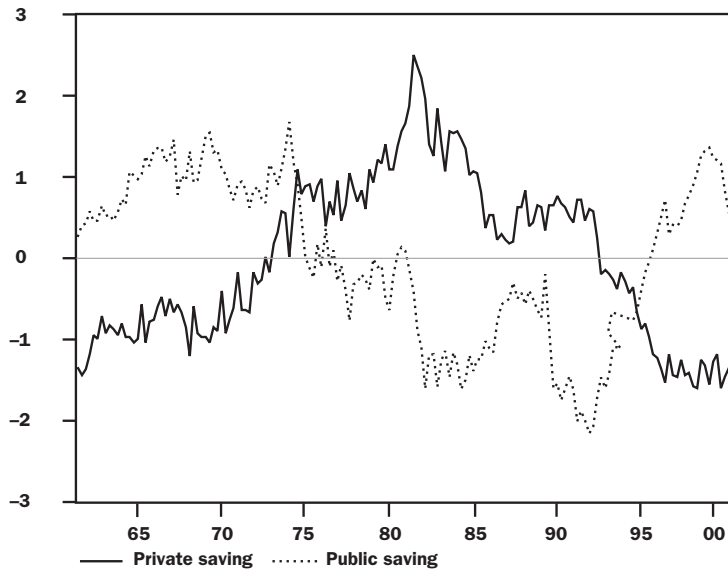
Figure 2, however, provides another view of the behaviour of the Canadian savings rate. In the spirit of equation (1), the savings rate is coupled with the overall public sector surplus, with both being expressed as a ratio of gross domestic product (GDP). In constructing this graph, I used normalized data: when a series is above the zero line, that means it is above the average for the period and when it is below the line it is below the period average.

Figure 1
Private Savings Rate in Canada, 1961–2002



Question: Should we be concerned with the important decrease in the savings rate since the mid-1980s?

Figure 2
Canadian Private and Public Savings Rates



Note: Normalized data – private saving from sector accounts – person and unincorporated businesses, CANSIM d 14915. Public saving is total government saving, CANSIM d 15236. Ratio-to-GDP CANSIM d 14915.

As is well known, public “saving” swung heavily into dis-saving, that is, budget deficits, between 1973 and 1996. If far-seeing Canadian households were taking future taxes into account, as in the RE world, private saving should have been above its average level during this period of high budget deficits (or low public saving). Conversely, the RE prediction is that the private saving line will be below the zero line when the public saving line is above it.

In fact, the fit between the RE prediction and the facts is striking. With the exception of the 1975–82 period, private saving and public saving *do* fall on opposite sides of the zero line. More importantly from a policy perspective, the RE prediction is very well corroborated in the post-1994 period: the swing from huge deficits to surpluses led to a decrease in household saving.

This is my bottom line. I fully agree with Johnson on his key point. Our budget deficits did force Canadians to borrow abroad and this is the best and simplest way to show why and how budget deficits are costly in an open economy. But I think RE remains a very useful tool in understanding the evolution of such an important macroeconomic variable as the savings rate. According to RE, policy makers should *not* worry about the decrease in the savings rate since 1992. Canadians do not have to save as much today as in the deficit era because they know that with the decrease in the debt-to-GDP ratio, they will have to pay less tax in the future. A lower savings rate is thus compatible with the “intertemporal budget constraint” of Canadians.

Before concluding, I would like to add an open-economy explanation for the fact that Ricardian equivalence is not fully verified for the Canadian economy. There are, of course, many reasons why RE does not hold fully in a closed economy. As discussed in Johnson’s paper, the liquidity constraint is one of the most important. But in an open economy, labour mobility is a serious limitation on the validity of Ricardian equivalence. People could stay here when the government is becoming indebted and benefit from all the extra public services, but then leave the country when the debt comes due. Canadians who migrate to the United States do not have to pay their share of the federal debt. Again this implies that RE will not be fully verified because rational Canadians who anticipate migrating in the US might not be discounting future taxes.

A Ricardian Conversation with my Wife

I conclude by reporting a conversation held with my wife the Friday before I came to the conference on which this book is based. My wife is a non-economist working with economists and living with an economist. Consequently, she is usually interested in understanding how economists think and she sometimes enjoys discussing economics.

So at dinnertime, she told me:

“Serge, you didn’t say anything about your conference in Montreal next weekend? I am surprised; usually you get so stressed before a conference.”

I replied: “Oh, Lucie, I am just commenting on a paper.”

She said: “How good is the paper?”

“I don’t know. I didn’t receive the paper yet.”

“But, you should be nervous Serge, you don’t know what to say?”

“Oh, it’s simple. The paper is on Ricardian equivalence. If David Johnson, the author of the paper, argues that RE is verified, I will argue the reverse by looking at the current account. If he says that RE is not verified, I will argue the reverse by looking at the savings rate. In either case, I will say roughly the same thing. That is what is great with RE, you always have something to say.”

Then she asked me: “Serge, what is Ricardian equivalence?” From the point of view of my own household budget management, I was not yet aware that I was about to make an important blunder.

I explained the concept to her carefully, though leaving aside from our dinner-table conversation such indigestible topics as the no-Ponzi game condition and the Euler equation. And I ended up with my interpretation of the decline in the Canadian savings rate in recent years. After a period of silence devoted, I thought, to the quiet appreciation of our *sushi* and white Bordeaux, my wife said.

“That’s a good one Serge. After all these years, finally I have learned something useful from one of your many conferences. You are going to Montreal next weekend. Tomorrow it’s my time to have fun. As a *rational and far-sighted* Canadian, I will be going to Montreal tomorrow shopping at *Simons’* and *Les Ailes de la Mode* because of Paul Martin’s great achievement. For, as I understand, the debt-to-GDP ratio continues to fall.”

So this is my real bottom line. In this era of a declining debt-to-GDP ratio, RE is something that economists should not explain to their non-economist spouses. Rather, it is a secret that we should keep for us, and for our poor, long-suffering students.

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