Saving-investment balances and the Great Reflation

Think in nominal terms. Gross national disposable income (*GNDI*) is private consumption (*C*) plus investment (*I*) plus government spending (*G*) plus exports minus imports (*X – M*) and net factor income and transfers abroad (*NFITA*):

$$GNDI = C + I + G + (X - M) = W + \Pi + T$$

Subtracting taxes from each side, we get private sector *disposable income*, wages and profits, as a function of the fiscal deficit and external current account balance:

$$Y^D = GNDI - T = C + I + FD + CA = W + \Pi$$

and the private sector saving-investment balance (*PSIB*) is equal to this disposable income minus expenditure on currently produced consumption goods and investment goods:

$$PSIB = (Y^D - C) - I = FD + CA$$

Suppose the community saves a constant fraction of disposable income ($S = (Y^D - C) = \phi Y^D$) and likewise import a constant fraction of disposable income while external net factor income and transfers are assumed zero ($CA = X - \varphi Y^D$) we get two relations between private saving investment balances and disposable income:

$$PSIB = \phi Y^D - I = FD + X - \varphi Y^D$$

The domestic private sector has three outlets for saving. First, through domestic capital accumulation, *I*, through which deferred consumption by the community can be carried into the future. This represents *internal* saving—*within* or amongst domestic private actors. Second, the fiscal deficit, where government debt becomes an alternate channel for private saving and recycling of income flows within the community. Third, the current account, where foreign financial assets—as counterpart to the current account surplus—become a vehicle for private saving, including, perhaps, through claims on non-resident governments, or reserve assets. The latter two are *outside* outlets for private saving.

Indeed, we can solve for Y^D as $Y^D = \frac{I+X+FD}{\phi+\varphi}$ where $\frac{dY^D}{d\phi} = -\frac{Y^D}{\phi+\varphi} < 0$.

The fact that saving adjusts, via disposable income, to investment makes this a Keynesian construct—but also a realistic organising device for thought experiments about pandemic macroeconomics.

The flow of "inside" with "outside" private saving vehicles determines disposable income, as in Figure 1 on the left below—where I1 represents an initial *inside* saving

locus, upward sloping in disposable income as greater income means higher private saving; and O1 represents sources of outside saving for the community, downward sloping because higher disposable income means more imports and a smaller current account surplus. Where they intersect at Y_0^D represents some pre-pandemic level of disposable income.

Now imagine a pandemic. As the virus hits, private investment falls while saving increases, represented by an upward shift and steeper gradient as inside savings move from I1 to I2. Given fiscal policy and exports, this would reduce disposable income from Y_0^D to Y_1^D. Both the fall in private investment and consumption, other things equal, would drive down private disposable income and imports until a current account surplus emerged to absorb greater private saving in external financial assets. (If this is happening globally, of course, then O1 would be shifting down also as exports contract—but we ignore this here.)

In the process of declining private spending, falling incomes would bring destitution and poverty amongst those without financial buffers to dissave; private financial contracts that depend on an expected flow of income would be disappointed; while many whose incomes do not rely on social contact would still be impacted as a knock on from the contraction of spending on face-to-face consumption transactions fans out through the community into lower spending overall. In other words, being able to work in isolation doesn't bring protection from employment loss. A lighthouse is useless without shipping.

Figure 1: Pandemic lockdown: Increase in private saving met by fiscal deficit to sustain disposable income

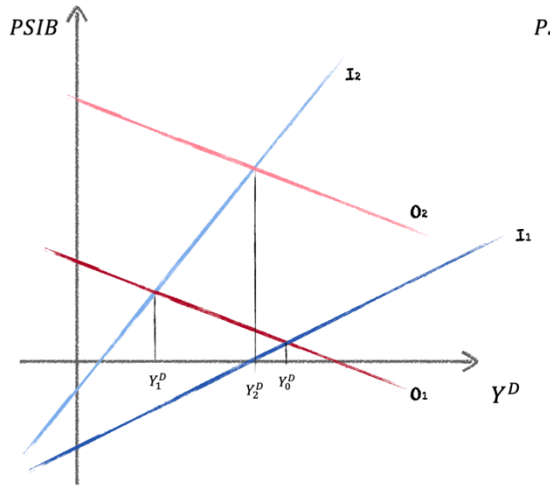
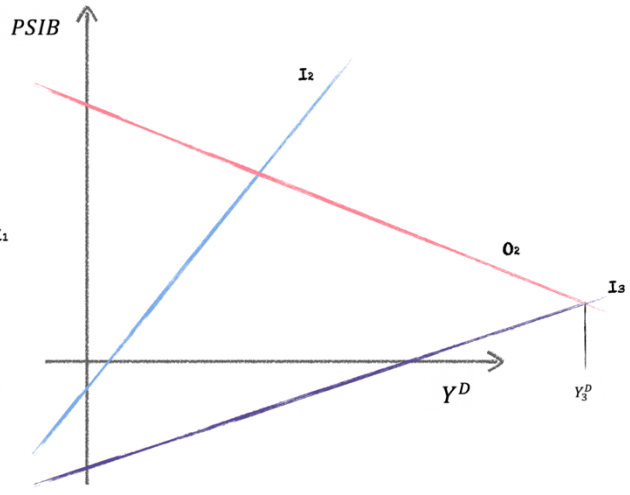


Figure 2: Post-vaccines: Consumption and investment rebound with continued fiscal deficit causes huge disposable income boom



The government can step in by issuing debt and making transfers, channelling the saving of those who can still work while socially distanced towards those who cannot. In effect, government is intermediating the savings from the former towards the latter. Those zoom-workers end up with higher savings—indirect claims, typically via

monetary financial intermediaries, on government. And disposable income of the community as a whole, at Y_2^D, is as a result sustained at a higher level than would otherwise be the case. This is the story of 2020.

Now imagine vaccine roll-out and reopening. The community as a whole enjoys stronger household and corporate balance sheets that would underpin stronger spending.

As the lockdown unwinds an investment and consumption "boom" will see spending by the private sector accelerate from low levels in 2020. This is shown in Figure 2 by a downward shift and flattening of the internal saving locus, from I2 to I3.

Under normal circumstances, we would expect the "outside saving" to retrace downward to offset this—the mirror of what happened in 2020. But this is where this story becomes additionally interesting right now as fiscal policy in the United States will remain expansionary as the economy reopens.

The Biden Plan is such that the calendar year US Federal deficit in 2021 is likely to be roughly the same as in 2020. That is, rather than endogenously retracing as the economy reopens, fiscal policy is further contributing to increasing private incomes during the upswing. This is represented by O2 remaining unchanged in Figure 2 such that the outcome of the economy reopening, and fiscal policy is a sharp acceleration in private disposable income to Y_3^D alongside a widening current account deficit as imports are absorbed.