How stabilizing investment stabilizes a system built by self investment

Link to Excell file - GrowthSwitch.xls

Ending growth doesn't end Prosperity, it stabalizes it.

To help explain When a system turns off it's exponential growth it begins to mature, performing better and better rather than bigger and bigger. It's not what people usually think though. Ending the growth of investment does not either collapse the economy or end the expansion of the economy.

The Graphs show one formula with two choices for what to do after a period of exponential growth, have investment fail and capital wind down, or stabalize,

the model

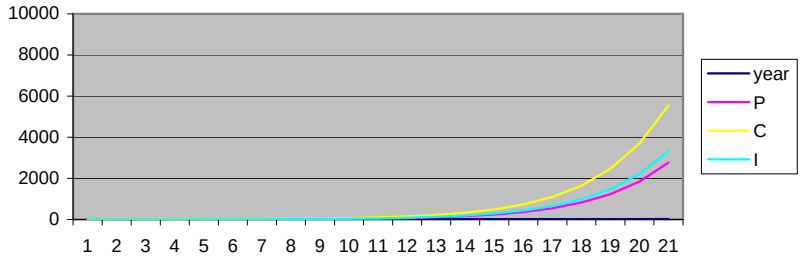
Investment builds capital, capital builds stuff...

Line	The Terms of the equation	Last Year	This Year	
	Economic Product (the returns on capital)	P0	P1	It measure of total goods and services produced and paid for per year, by the productive capital at the rate of its productivity
	Productive Capital	C0	C1	What produces value, productive capital is the physical capacity to produce things of value, and is accumulated over time by investment, and runs down over time
	Productivity of Capital	R0	R1	The rate at which capital produces returns on the investment that built it.
	Decay of Capital	d		The rate at which capital wears out, assumed to be a constant
	Investment	I0	I1	The funds of money set aside to be spent to build capital and produce a return both for the producer using the capital and the investor
	Returns on Investment	r		Investors allow their money to be used by capitalists, and accept the added risk, on the condition that they get a good return, better than nominal interest rate, assumed to be a constant
	The Equations			
	P1=C0*R0			Total Product is capital time capital productivity
	C1=C0-C0*d+I			Total Capital is existing capital less decay plus investment
	I0=I1+I0*r			Investment is returned by capital users with interest greater than the nominal interest available with no risk

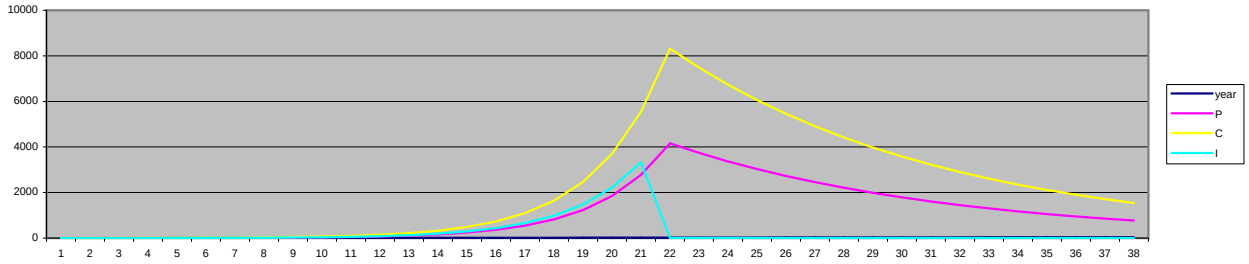
Yes.... I'm Ignoring

1) the important difference between natural and man-made capital for this exercise - sticking with just the simple ordinary economics type view of the world.
2) Ignoring any limits of the earth or complications of managing too much with too little knowledge, productivity and resources are unlimited.
3) ignoring people… oh well, must simplify, I'm leaving out the whole zero sum normal economy of passing money around in exchange for goods and services without expectation of returns. It does power chage in lots of ways, but is more the passive consumer of the agressively inventive capital investment cycle.... or so I'd contend

Historic Normal Growth,
Capital increases faster than it decays, Investment grows as a condition of supplying capital.
Investment = Investment *(1+r) for 20 periods



Interrupted Growth,
Capital increases faster than it decays, Investment grows as a condition of supplying capital.
Investment after 20 preiods = 0 (what most people think of as an end of growth)



Sustainable Growth (an end of compounding investment)
Capital increases faster than it decays, Investment grows as a condition of supplying capital.
Investment after 20 periods = Investment *1 (no increase, no decrease)