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Reflections

Partners in Capital Growth

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Brouhahas in academia… and progress

Last month, two intellectual brawls happened in academic circles. They have a connection, and the resolution of the second will hopefully be positive for how our economy and our investments evolve over the next few years.

The first brouhaha: Edward O. Wilson
In an April 5 Wall Street Journal excerpt from a book soon to be published[1], E.O. Wilson, a Harvard theoretical biologist, wrote:

> *Many of the most successful scientists in the world today are mathematically no more than semiliterate.*
>
> *Fortunately, exceptional mathematical fluency is required in only a few disciplines, such as particle physics, astrophysics and information theory. Far more important throughout the rest of science is the ability to form concepts, during which the researcher conjures images and processes by intuition. […]*
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> *Ideas in science emerge most readily when some part of the world is studied for its own sake. They follow from thorough, well-organized knowledge of all that is known or can be imagined of real entities and processes within that fragment of existence. When something new is encountered, the follow-up steps usually require mathematical and statistical methods to move the analysis forward. If that step proves too technically difficult for the person who made the discovery, a mathematician or statistician can be added as a collaborator.*
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> *[…] The annals of theoretical biology are clogged with mathematical models that either can be safely ignored or, when tested, fail. Possibly no more than 10% have any lasting value.* ***Only those linked solidly to knowledge of real living systems have much chance of being used.*** *[Our emphasis]*

Of course, mathematicians and mathematically focused scientists did not like this in the slightest, and some of the replies were sharp. But Wilson has two points which apply equally to investing and economics, topics that are much more similar to biology than to particle physics or astrophysics. The behaviour of markets and economies is the result of the interactions of thousands or millions of individuals, each with their own fears, hopes and biases –complex living systems full of hidden intricacies. Wilson's points are:

First, observation, knowledge accumulation and intuition are more important to a proper understanding of living systems than abstract mathematical models.

Second, when knowledge is formalized into rules or models, only the rules or models that link to the reality of the underlying living systems will be useful.

This links back to our December issue of Reflections. The neoclassical approach to economics we described there (where money, credit and banking are assumed to be "neutral participants" and all other participants are farsighted and rational) is very much an abstract mathematical model trying to emulate the 'living system" that is the economy. This approach, a major influence on economic policies since the early 1970s, led us straight to the Great Recession of 2008, having promoted free markets, deregulation, and globalization. Obviously this approach did not live up to its promises. It is worth noting that, especially with its hypotheses lacking a link to reality, neoclassic economics do not satisfy Wilson's first point.

We contrasted it to the empirical study of economies, which uses observed history to try and understand how they behave, an approach we illustrated with the work of two economists, Reinhart and Rogoff (RR for brevity below). While having followed Wilson's first prescription of working out from observations collected from the field, RR caused the second brawl by failing in some of their work to respect Wilson's second point: that conclusions have to link solidly to the reality of the underlying living systems (countries' economies here).

[1] "Letters to a Young Scientist", E.O. Wilson, Liveright

The second brouhaha: Reinhart and Rogoff

For a quick and humoristic overview of the issues involved here, watch the April 23 edition of the Colbert Report[2]. It is well worth the ten minutes spent.

As we described last December, Reinhart and Rogoff (RR below) are two empirical economists who, having worked at the IMF, have amassed a substantial database of economic data going back to the early 1800s and use it to try and deduce conclusions about economic behaviour and rules. This is a welcome contrast to those economists who start with unrealistic hypotheses to build mathematical models.

A book published in 2009, 'This Time is Different', was well received and gave them "star status". A 2010 paper, 'Growth in a Time of Debt', proved more controversial with a few economists but was seized upon by the majority of them and many politicians as demonstrating the need for austerity. That paper states that government debt in excess of a certain threshold, about 90% of Gross Domestic Product, is linked to significant lower economic growth (a correlation). However, the paper does more: it suggests that high debts are the cause of lower growth rate (a causation), and in other communications RR confirmed that interpretation.

The March issue of Reflections described how important a minimum level of growth is for an economy, if only to absorb all the new entrants into the labour market. But austerity advocates used the RR paper to justify their views when faced with economists advocating stimulus spending to re-start the economy. Worth noting, RR never protested the way their findings were being used.

The initial concerns some economists had with the RR paper was that causation had not been demonstrated, only correlation. But RR, having declined to share their data, could not be conclusively contradicted. However, establishing the direction of the causation (is high debts inducing low growth, or low growth increasing debts?) is important as the consequences for economic policies are very different. After all, it is plausible that low growth leads to higher debts: this is exactly what happened to the US and Canada in 2008. The financial crisis induced recession lowered economic activity and increased unemployment. For the government, this meant lower tax receipts and higher welfare expenses, leading to an increase in government deficit and debt. Lower growth had induced higher debts.

About three weeks ago all hell broke loose… RR had finally given their data to a grad student who found mistakes, dubious country data choices and questionable methodology in their work, invalidating their conclusions[3]. There was no obvious threshold above which government debt is linked to lower growth; there was no proof of causation from debt to low growth. RR had failed Wilson's second point: that conclusions have to link solidly to the reality of the underlying economies they used in their analysis.

It was big news amongst economists, as suddenly the main remaining academic support for austerity in time of weak demand had been discredited. This comes at a time when the International Monetary Fund is also moving away from austerity orthodoxy, and the pitiful economic results of all the countries in Europe that have followed austerity policies show that austerity does not work.

However, even without academic support, austerity will continue to be advocated for ideological and self-interest reasons, where the objective is not so much lower debts but reducing government size and preventing active government policing (for an excellent history of the idea of austerity and its past consequences where applied, see note[4]).

Hopefully, sanity will prevail and the austerity policies currently implemented in the US (sequester) will be at least partially reversed. Europe too has to reconsider its economic policies, something conceptually difficult for the Germans and the EEC economic institutions they dominate – but it has to be done as current policies are breeding dangerous social currents.

We are still in dire need of stronger growth, to reduce unemployment and allow our economies to recover their balance. Now that austerity has lost its academic fig leaf, hopefully politicians will find the courage to implement better policies for growth to revive sooner.

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[2] Part 1: https://www.youtube.com/watch?v=2Oa-Bfdkg3w
Part 2: http://www.youtube.com/watch?v=GgMV4KV6Qw0

[3] Does High Public debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff - Herndon, Ash and Pollin, April 2013

[4] http://www.foreignaffairs.com/articles/139105/mark-blyth/the-austerity-delusion - "Austerity: The History of a Dangerous Idea", Marc Blyth, Oxford University Press, 2013.