



## Peter Burgess LinkedIn Blogs

### What are the Limits to Wealth?

My views on 'limits to wealth' are influenced by my learning something of the natural sciences and engineering before I learned economics and finance. In the natural sciences ... mathematics, physics, chemistry, biology ... there are rules that govern behavior, and very real constraints on what may be done. By contrast, in economics and finance it seems that we are able to make up the rules as we go along ... and the benefits accrue to a large extent to those that make the rules.

In the end, however, the limits to wealth are determined by the natural sciences.

I see wealth originating with the beginning of the universe. The limit to wealth on planet earth is defined by (1) how much resources were present on day one, the day the planet was created; (2) the energy that comes in every day from the sun. and (3) the life systems that able to convert energy and resources to other forms of resources and work. All of this may be large, but is finite.

Fast forward several billion years and the limit to wealth is going to reflect what we started with, and what has happened over time. Geological records suggest that there have been significant changes in the natural world over this long time, as for example weather patterns changing, species evolving and disappearing, and so on. However, for most of history mankind was unimportant in all of this, being a rather small population and lacking much power and influence over anything.

In the last 5,000 years this started to change ... but it is only in the last few hundred years that the role of mankind has become a significant 'actor' and what has happened in the last few hundred years is quite amazing. What has happened is amazing, but everything has been done within an envelope of constraint determined by nature's resources and the natural sciences.

In modern times, and in the last few hundred years the population of the world has grown dramatically ... and is continuing to grow. In 1900 the world population was around 1.7 billion people. When I was born in 1940 the population of the world was around 2.3 billion. By the year 2,000 the population had reached 6.1 billion and it is expected to be 8.0 billion by 2024. If we see people as 'assets' rather than as liabilities, this is very good news ... but this larger population has got to share the wealth that has natural limits

For millions of years, if not billions, the energy from the sun was converted by nature into what has become our fossil fuel reserves. These reserves are substantial, but they are finite. For most of history these reserves increased year over year. During the past the past 300 years and as a result of the industrial revolution people have started to consume this stored energy, and there has been an impressive increase in people's standard of living. There is no question in my mind that a very large part of modern quality of life and standard of living is directly a result of mankind making better use of energy and other resources than ever before.

The science associated with converting the potential energy of fossil fuels into energy and work that people can use is such that there are undesirable waste products. These include various forms of atmospheric pollution such as: particulates, sulphur dioxide, nitrous oxides and carbon dioxide. Over the past few decades, technology to address the damage done by these pollutants has been deployed with the exception of carbon dioxide. Carbon dioxide is invisible to the naked eye, but is nevertheless accumulating in the atmosphere and changing the characteristics of the atmosphere in many complex ways, most notably in connection with the heat balance of the planet. There is a risk here, because we do not know how much this might change the equilibrium of nature that we have lived with for many thousands of years.

Mostly, when we talk of wealth, we are not talking about the wealth I have just described that is derived from our planet and the sun, but a subset of wealth that is measured in economic and financial terms. Furthermore, we associate wealth with an owner of the wealth ... whether it is an individual owner, or some form of legal entity, corporate or otherwise. In some cases the 'ownership' of this wealth includes various components of the natural wealth, in some cases natural wealth is excluded and ignored. There is an important measurement inconsistency in the way we think about economic and financial wealth which did not matter much a century ago, but is now becoming very important.

It seems that a capitalist system that has a singular focus on financial capital is in danger of growing financial capital while dangerously depleting human capital, social capital, physical capital, national capital and natural capital, and constraining intellectual capital. The metrics we use to measure wealth are all about financial capital and not much else.

As an accountant, I think in terms of 'state' and 'flows'. This is the foundation of accounting and with this perspective, the profit performance of a company is very rigorously linked to changes in the balance sheet of the company ... or the 'state' of the company. In the accounting for a company, there is a clear reporting boundary for a company, with everything outside the boundary not having anything to do with the present 'state' of the company.

GDP (Gross Domestic Product) is, of course, a measure of economic flows rather than being a measure of 'state' ... though it is used as a proxy for 'state' in a lot of the conversation about economic performance and public policy. Corporate revenues and profits are also measures of economic flows, and as such are good measures of the performance of a company.

Financial wealth associated with economic performance is augmented in a very clever way by the manner in which capital markets function. A company makes real financial wealth as a result of earning profit and strengthening its balance sheet. Capital markets, however, think in terms of the present value of future profit flows to assess the value of a company. These two ways of calculating value are very different, and result in the creation of money wealth that is not at all represented by the bookkeeping reality of the company's balance sheet.

Outside the capital markets something similar is going on. Financial wealth is augmented ... or seems to be ... when the value (price) of an asset increases without actually changing in physical terms. An example of this would be a house I purchased in 1976 for \$57,000 and sold not long after, but which recently changed hands for in excess of \$800,000. The house is more or less the same ... its role in financial wealth now much inflated over the situation decades before.

These valuation methods make it appear that financial wealth is unlimited, and in a sense, anything denominated in modern money may be unlimited. There is no limit on how small a unit of money can become.

Real wealth on the other hand is limited ... but the limits are manageable. Human capital and social capital reflects the value of people both as individuals and as part of society and is going to be a function of how many, and how happy people are ... and the many factors that go into the valuation of this. No limits here. Physical capital is constrained by available money ... a silly constraint really ... but can be as big as it is needed, if only we could make really good decisions. Intellectual capital is constrained by money ... but the real constraint is the amount of brain that human beings can bring to bear on solving problems. The value of intellectual capital is also distorted by the rules of ownership, and protection that has the potential to constrain use and value of invention ... but not a constraining limit. Natural capital is huge, but finite and until recently, mostly ignored and misunderstood. In the industrial era we have shown over and over again that we have the capacity to do serious damage to natural capital through depleting resources ... minerals, fossil fuels, land, water ... and by environmental degradation, land use, water pollution, air pollution (including greenhouse gases), eco-system damage and loss of biodiversity.

My conclusion is that while there is a limit to real wealth, this limit is not going to be a constraint on socio-economic progress any time soon, or maybe ever. Using financial wealth on its own as the measure of success is, however, very problematic, as is the use of measures like GDP growth and business profit as the dominant measures of socio-economic performance. I believe we have to get serious about measuring not only the scale of economic flows, but the 'state' of all the capitals that are key to understanding our complex socio-economic system. The biggest risk we face at the present time is the idea that we have a high performance socio-economic system simply because we have GDP growth and profits that augments financial capital while totally ignoring changes in the other capitals. More than anything else we need to improve our socio-economic efficiency as we move forward to improve quality of life and standard of living.

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