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Growth and the inequality in the demand for resources

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Moving with the mass of humanity leaving the Ellis Park stadium after the most recent Currie Cup final prompted me to reflect on a simultaneous event that will profoundly affect the global equilibrium in the years to come. As the stadium cleared the 60 000 odd fans that watched the Lions beat the Sharks, somewhere (most likely in Asia or Sub Saharan Africa) the 7th billion person currently alive on this planet drew his or her first breath. Interestingly, the world's population has increased from 6 to 7 billion in about 12 years. One billion people is a lot of people. If all billion were standing on each other's shoulders they could reach the moon and back about twice! Based on UN projections the next billion should be born over roughly the same period as growth rates are very gradually slowing.

This dynamic of Malthusian population growth has been well documented and researched. China and India's already huge populations (estimated to be 30% of the total) will be the engine for economic growth for many decades to come based on growth and rising living standards. The mantra of just selling one widget to every Chinese and hence accruing an economic fortune is well entrenched into the business strategies of many multinational corporations. The cautionary note comes from projections for resource usage and the lack of supply creating a nightmare scenario in the medium to long term. The arguments are compelling and difficult to refute but the timing of the bottlenecks are very different for different resources. Water and oil are two examples that illustrate this interesting point.

Water

Total fresh water demand globally is about 5000 billion m^3 per annum representing about 1/20 of total rainfall on land. (about 30% of total surface area) The demand for water is growing at 64 billion m^3 per annum according to the UN Water Development Report 3 published in 2008. This water is required for the net roughly 80 million extra people born each year. Clearly, there is a concern that the planet will run out of fresh water soon. This is a serious concern but it is instructive to reflect that the historic experience is that as countries develop and get wealthier, the water usage per \$ of GDP declines. This is a function of the declining role of agriculture, (about 2/3rd of total fresh water demand) greater efficiency, better conservation and the growth of service industries in the more developed economies. Water usage in the United States measured as m^3 per \$ of GDP has declined from 0.3 m^3/\$ in 1975 to 0.05 m^3/\$ in 2000 and is still falling according to the same report. Other developed countries have shown similar trends. The United Kingdom being a predominately service economy and a large food importer from continental Europe used only 0.01 m^3/\$ in 2000.

Developing countries by comparison have a much higher intensity of water usage. For example China consumed 0.7 m^3/\$ of GDP in 2000 and India's consumption was 1.3 m^3/\$ GDP. In both countries the trend from 1975 to 2000 followed the downward trend of the developed countries but from a higher base. It is reasonable, therefore, to expect that as living standards in China and India rise and the structure of their economies approaches that of the more developed countries the intensity of fresh water usage (currently averaging about 1 m^3/\$ GDP) should approach the usage of the developed nations. (currently about 0.05m^3/\$ GDP). This implies about a twentyfold reduction in the intensity of water usage over time. Although the demand for fresh water will rise it will be mitigated by the declining intensity of usage resulting from the changing structure of the economies.

Oil

The dynamics for the long term supply/demand balance for oil is different. In the developed world the annual consumption of oil varies from about 23 bbls/person/year in the United States to about 4 bbls/person/year in Japan. The United Kingdom is in the middle at 9 bbls/person/year. Per capita oil usage has not changed that much in a decade despite conservation efforts.

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China currently uses about 2.5 bbls/person/year and India about 1 bbl/person/year. Both countries on a per person basis use significantly less than the more energy intensive developed countries but this number has been rising with economic growth. It is expected that this trend will continue. The significance is that as China and India develop, the per capita demand for oil should increase and could more than double if the two countries reach the same energy intensity as the developed countries.

This has very serious consequences for the global energy supply demand balance. Unlike rainfall, fossil fuels are not renewable and have finite and limited reserves. As global citizens we should all be concerned with the increased demand for a broad spectrum of resources. All conservation efforts should be supported wholeheartedly. However, as investors we should be more willing to deploy capital to those resources that have increasing propensities of usage instead of declining propensities of usage. This is particularly true if supply constraints are apparent.

With regard to Sasol we believe that energy prices will stay at elevated levels for the foreseeable future following largely from the above logic. Sasol is uniquely positioned with its proven oil from coal technology as known global coal reserves vastly outnumber oil reserves. Further, Sasol's technology is capable of utilizing poor quality reserves which would not be considered economic for power generation given environmental issues. We have built in a robust profile of normalized earnings growth for Sasol, and on this basis, expect significant cash generation over the next few years. The company also has exciting blue sky potential as the oil supply constraints are likely to make the gas to liquids technology increasingly competitive in an energy starved future. Sasol remains one of our core holdings in the resource sector.

About the Author:

Charles Booth graduated as a chemical engineer from the University of Cape Town in 1973. Charles began his career in financial services with Allan Gray Investment Council as an equity analyst. After three years Charles entered stock broking and for the next 12 years was Head of Research and a Director of Simpson McKie Inc. (now HSBC) and JD Anderson (now UBS). In 1993 Charles joined RMB Asset Management. Charles built the research team and the investment process progressing to the position of CIO in 2002. Charles retired from RMB Asset Management in 2008 after 15 years of service. After a short sabbatical Charles joined Truffle in January 2009.

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