

WEALTH IS ALL IN THE MIND

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ABSTRACT

Capitalism (C), democracy (D) and rule of law (R) spawned the industrial revolution in England. Subsequently, the people of that country, its neighbors known as Western Europe, and their majority descendant United States of America (USA) who adopted the practice of CDR, have enjoyed unprecedented wealth as measured by purchasing power parity adjusted real per capita gross domestic product (GDP). The countries that have not adopted these practices have remained relatively poor. This disparity is independent of natural resources (N), government spending, country size, location, culture, physical characteristics and various beliefs commonly espoused.

Keywords: CDR index; GDP; Capitalism; Democracy; Rule of Law; Entrepreneurship

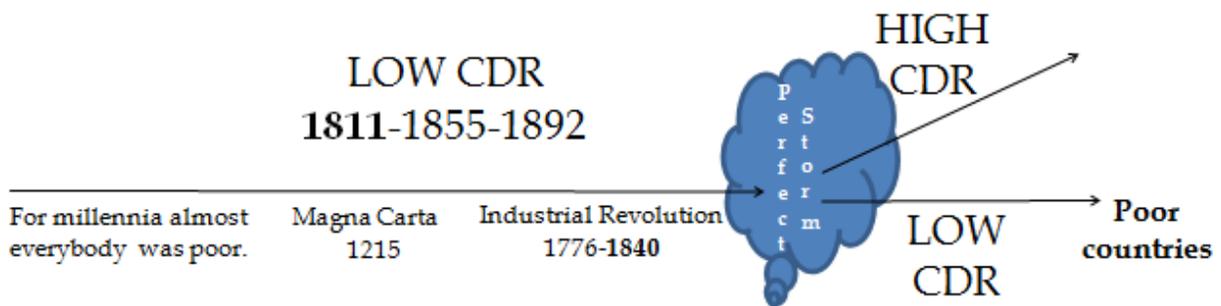
INTRODUCTION

Governments routinely debate the cause of poverty. The manmade D and R institutions developed and evolved over many centuries (North, 1991). But, almost all people remained poor. The exceptions were feudal lords, and beneficiaries of the 17th century Amsterdam stock exchange, the Dutch and English East India Companies, and certain skilled artisans. While these entities managed to transfer some wealth to themselves, little if any was created and much was destroyed through invasion, looting up to the international convention of The Hague in 1899, and wars.

In 1662, King Charles II of England created a royal charter for the study of science. The technology that that created, and the 1811 New York limited liability law and other versions attributable to England (1855) and Germany (1892) created the mechanism of CDR and the perfect storm that combined to start the industrial revolution (*circa* 1840). See Figure 1. Adam Smith (1776, 2010) who lived during the beginning of wealth creation in England never posed the question of poverty. Perhaps it is because he knew that the cause of poverty is the inaction of

doing nothing. His question was an “Inquiry into Nature and Causes of the Wealth of Nations.” We now know that he found the answer to be C, especially when facilitated by the catalysts D and R. Before the industrial revolution, poverty was the normal state of existence for mankind. England, its Western European neighbors, and their majority descendant USA that adopted CDR, became rich. Most of the world that has not adopted CDR remains relatively poor. We attribute this to the mechanism of the GDP generating process from C, D and R wherein C is attracted to R and D releases the imagination and creativity of the human mind for the superior deployment of C in the generation of GDP. Later, we will show that natural resources, government spending, country size, location, culture and physical characteristics are not the causes of wealth.

Figure 1. The historical relationship between CDR and the industrial revolution.



THE SOURCE OF WEALTH

Entrepreneurship is the process of starting a business, typically a startup company offering an innovative product, process or service. Capital stock that can be invested is about the past. Entrepreneurship is about the future. Entrepreneurship is expressed as quanta of information that must get noticed in order to serve any purpose. That requires low noise communication channels. The entrepreneurship signal must be relatively high and D and R must promote low noise channels. That is, a high signal to noise ratio (Gilder, 2013, Romer, 1990). Low D and R serve only to promote a high noise channel of infighting, unproductive conflict, and social disequilibrium through which the entrepreneurial information cannot pass, and goes unnoticed. Low D and R are synonymous with corrupt dictatorships and low GDP countries.

Entrepreneurship, the source of all wealth creation from ideas and imagination, is depicted in figure 2. Poor people in low CDR countries are frustrated into a mindset that capitalism is the cause of their poverty and refuse to participate in a corrupt economy (see Brosnan and de Waal, 2014 on the evolution of responses to unfairness and Barclay and Stoller, 2014, Brandstätter and

Königstein, 2001, Güth, Schmittberger and Schwartz, 1982, Jensen, Call and Tomasello, 2007 on the ultimatum game). They believe that the rich got rich at their expense. It is critical to tap the ideas of the whole population. Increasing political and economic freedom raises GDP (Friedman, 1912-2006, Gwartney, Lawson and Hall, 2015). As it turns out, Adam Smith recognized that a capitalist is a person who seeks to deploy personal effort so as to benefit himself maximally. That is, all rational human beings are capitalists. Therefore, a capitalist cannot be the enemy of the poor.

The capital stock component of C is endogenous but D and R are exogenous catalysts (term coined by Baron J. J. Berzelius in 1835) that create alternative pathways and lower the effort required to acquire and convert C into GDP (see Dominiak (2016) for components of capital in the business unit). R is the opposite of corruption and is an essential component of property rights, where property is a potentially fungible legal expression of an economically meaningful consensus by people about assets, how they should be held, used and exchanged (de Soto, 2000). R attracts C, and D releases knowledge of how to deploy C for optimal GDP. This is how human capital idea is converted into wealth and capital stock that can be reinvested, minus depreciation and obsolescence. Capital stock is inexorable. Despite Piketty (2014), without new human capital ideas, capital stock will decline continuously. The rich will eventually join the ranks of the poor. Each new human capital idea will raise the total level of C. The components C, D and R are each of a different structure. D and R do not take part in the C to GDP process, and remain in tact and available for the next cycle when it occurs.

One good reason for poor countries to regain a positive mindset is because wealth is a plus sum game. Since ideas are unlimited (Lotto, 2017), it follows that wealth is unlimited. Space travel is one example of the potential for limitless growth. The USA has demonstrated this, rising out of and beyond the world in which it began, through the atmosphere, and into space. If this is not sufficiently inspiring for the poor to become believers, the poor in rich countries should at least consider that they are richer than former Kings like Charles II who never had indoor plumbing or running water. Recognize the relentless time consuming hard work and devotion to low cost manufacturing of products by entrepreneurs, made affordable to the poor, so that they may have a better living standard and more leisure time. Finally, recognize that entrepreneurs are a gift to humanity and anything done to impede their activities can only destroy capital and threaten a return to widespread poverty. Later, we will show that poor countries must focus on raising their level of CDR if they are to raise their GDP.

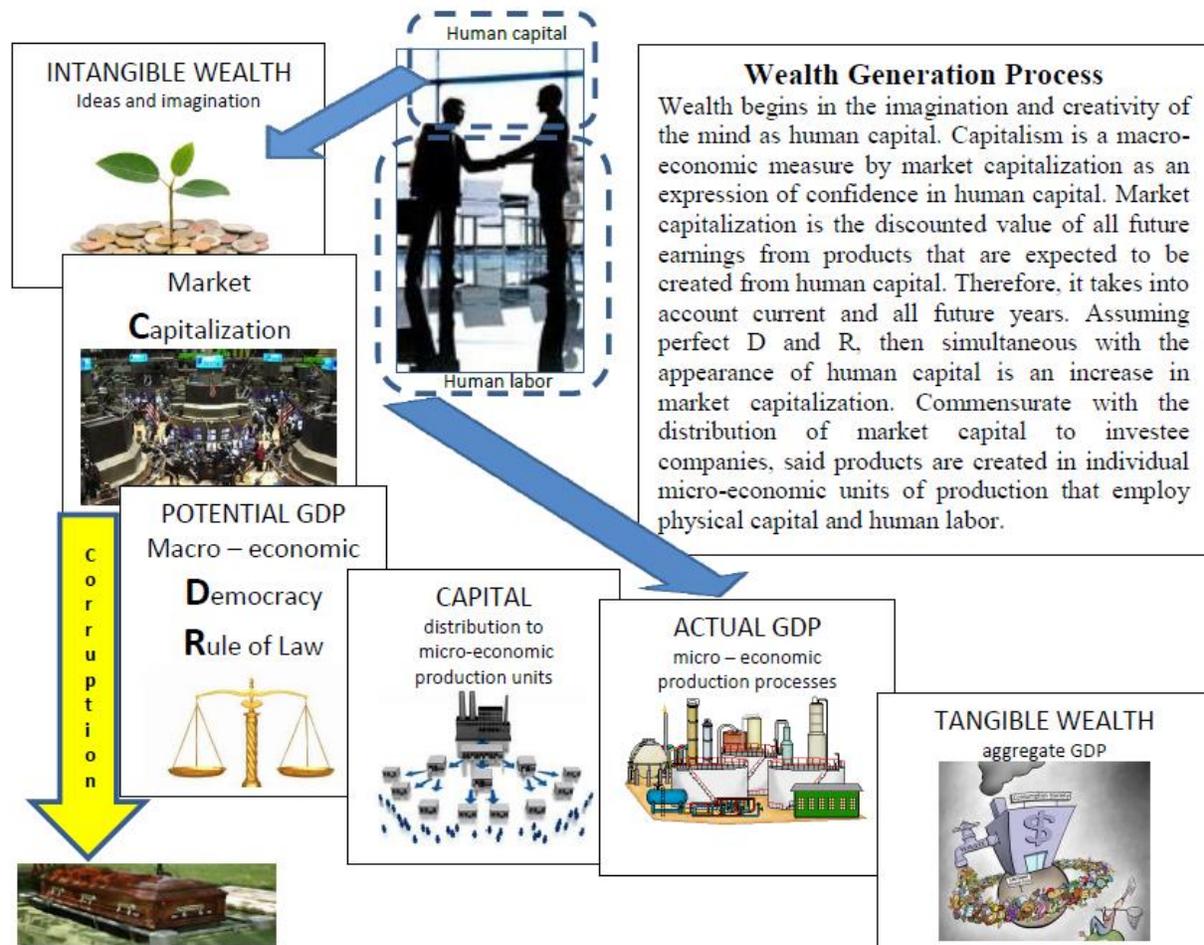


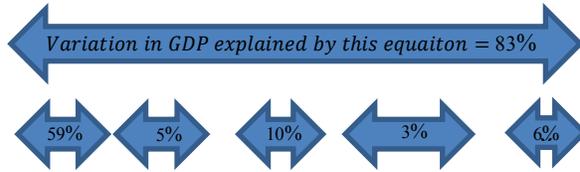
Figure 2. CDR wealth process: Capital to GDP conversion in the presence of Democracy and Rule of Law.

Relative contributions to GDP

To determine the relative contributions of C, D, R, N to GDP, these variables were ranked for all countries of the world then placed on a standardized scale of 0-1. Then GDP was regressed on C, D, R and N to obtain the fitted equation ([Click here for data and calculations](#)):

$$G = 1.53C + 0.14D + 0.23R - 1.21C \cdot D \cdot R + 0.38N$$

$$t = (6.60) \quad (1.69) \quad (2.60) \quad (4.40) \quad (5.59)$$



where G is the per unit standardized GDP and GDP can be estimated from $GDP = G (\text{highest GDP} - \text{lowest GDP}) + \text{lowest GDP}$.

The t statistic is significant at the 10% level for all variables. The equation explains 83% of the variation in GDP. The residuals (not shown) are perfectly random, indicating that there are no other systematic variables that are responsible for explaining GDP. The contribution from N is 6%. Furthermore, without human capital natural resources would not be identifiable. This finding dispels the commonly held belief, that they are important. The positive direct contributions from C, D, and R are 59%, 5%, and 10% respectively. The indirect contribution of 3% from the interactive C·D·R term is due to friction between decision makers in the deployment of C. The coefficient of C·D·R is negative because it subtracts from the GDP associated with the theoretical optimal but unknown decisions. The measurement of C is based on publicly traded stocks, so the remaining $100 - 83 = 17\%$ that is unexplained may be due entirely to the numerous small businesses that are not publicly traded and for which no data are or will ever be available. Other studies such as Barro (1996) did not include an interactive term and yielded inconclusive results regarding the effect of D. The Solow (1956) growth model does not apply here because it employs only capital stock instead of total market capitalization.

Examples of high and Low CDR countries

The regression line in Figure 3 shows the relationship between GDP and CDR for seventy nine countries for which a complete data set is available. These countries include almost the entire world's population. Also plotted are twenty one countries, selected for their contrast between culture, history, population characteristics, appearances and size, income and CDR. These countries are all over the world map. The diameters of the bubbles are directly proportional to the square root of population. It is remarkably clear from this vexillological chart that GDP increases with the CDR Index.

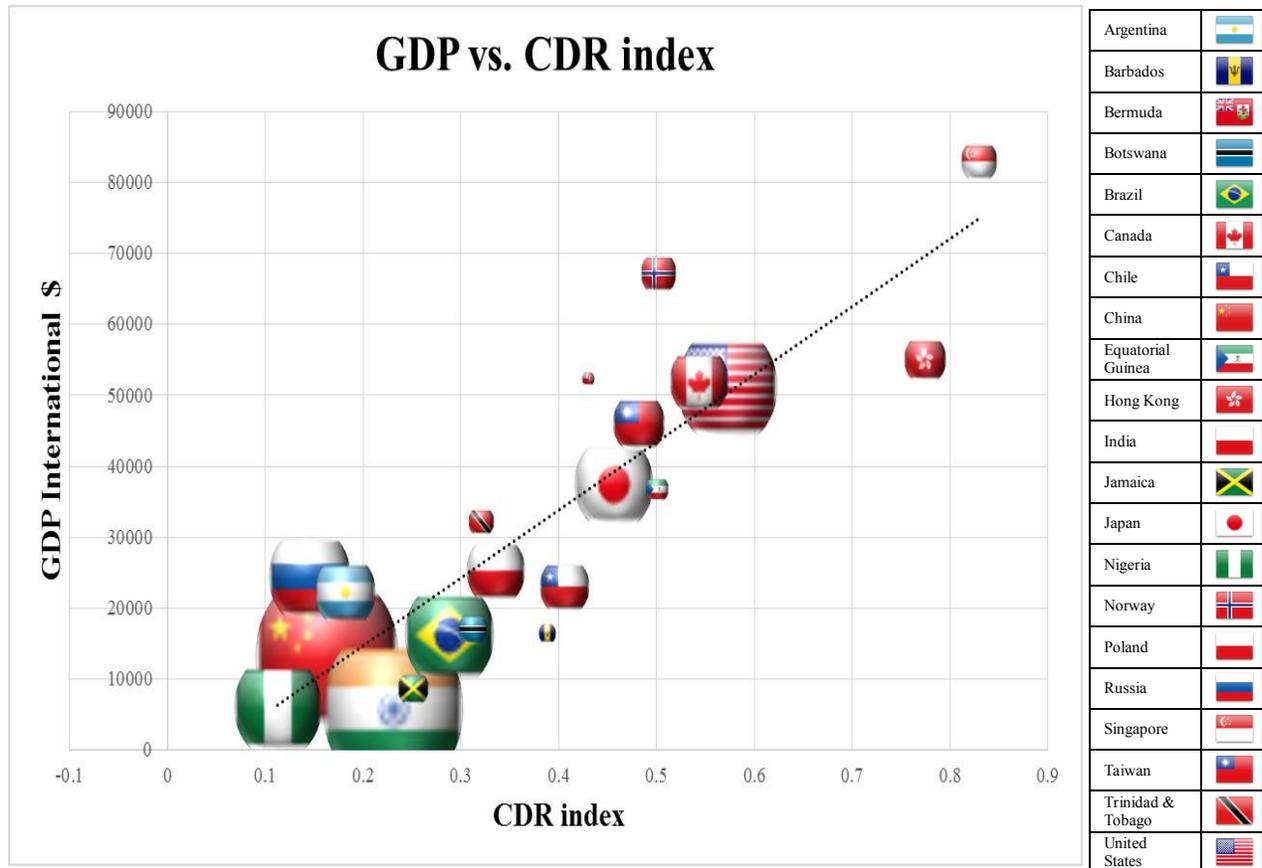


Figure 3. GDP vs CDR Index for 79 countries (line). Bubble size (21 countries) is the square root of population.

The United States and Western Europe comprise high CDR countries with high GDP. Some countries have benefitted from the possession of natural resources. But, the benefits are much smaller than they first appear to be. Auty (1993), Sachs and Warner (2001), Ross (2001), Sala-i-Martin and Subramanian (2003), Humphreys (2005), Wadho (2014) explain many ways in which natural resources have actually been a curse. Indeed, countries with an abundance of natural resources are more often than not poor. They include for example Russia, Nigeria, Brazil, India and China, to name just a few. They are low CDR and GDP countries. In contrast to victims of the natural resource curse, small western countries with common histories, high CDR and GDP are Bermuda, Cayman Islands, and to a lesser extent, Trinidad & Tobago and Barbados. Other former British colonies with high CDR and GDP are Singapore and Hong Kong in asia, and Equatorial Guinea and Botswana in subahara Africa. Still other elevated CDR and GDP countries that are very different from their neighbors are Poland and Chile.

Natural resources

As seen from the regression model, the commonly held belief that natural resources are the source of wealth is not true. Furthermore, natural resources can and do often have a negative effect via a phenomenon known as the Dutch disease paradox (Ebrahim-zadeh, 2003), otherwise known as the natural resource curse. Typically, a country that discovers a natural resource will contract with international companies that have related expertise to extract and place it on the world market in return for royalty payments. When the natural resource enters the international market, the country's currency is upwards revalued. Currency traders are more willing to be paid in the currency of the natural resource country than previously. Citizens can buy more from abroad. Nobody would want it any other way? As it turns out, the higher currency value raises the cost of exports and drastically reduces the country's other exports. Agriculture declines. Tourism declines. This hurts everybody except those in the geographical area of the natural resource. This leads to rampant speculation of corruption. The impact is fewer total exports, a net negative impact on GDP and numerous social ill effects (Hirschman, 1958, Seers, 1964). There are widespread losses of non-natural resource related jobs. There is disruption, dislocation, and social crisis. The regression model shows that the effect of natural resources rents contributes only 6% to GDP. Even where natural resources play a significant positive role, the very existence and utility of the resources can only be detected by human beings who know the relevant science and application of the resource. That is, if there is a natural resource it is the human brain.

Winston Churchill (1943) said that the "empires of the future will be empires of the mind." This was his testament to the massive and saddening waste from world war two over natural resources. His remark was consistent with what became a switch to massive wealth creation by the likes of General Electric, International Business Machines, Intel, Microsoft, Apple and now Google, all completely unrelated to natural resources. This is clear evidence that the source of wealth always was and still is the imagination and creativity of the human mind.

Government spending

If per capita government spending and population size are included in the regression model, their coefficients are not significant and there is no change in the percentage of GDP that is explained. Government taxes and expenditures merely cancel.

Country size

An examination of Figure 3 shows that as the chart is traversed from left to right, the sizes of the bubbles do not increase or decrease in a systematic way. Therefore, country size does not matter.

Location, Culture, Physical characteristics

The countries represented in this analysis include all country locations, cultures and physical characteristics and there is no pattern to suggest that these variables affect wealth, beyond the effect of C, D and R.

CONCLUSIONS

Prior to the industrial revolution poverty was the normal state of human existence. Wealth changed hands by means of colonialism and transfer by force. But, no wealth was created. That changed with the creation of capitalism as the mechanism for assembling capital via the limited liability company instrument, democracy and the rule of law. All rational people are capitalist and capitalism, democracy and rule of law is the demonstrated path to great wealth. High CDR countries have become wealthy and low CDR countries have remained relatively poor. This, iconoclastically, independent of natural resources, government spending, country size, location, culture, physical characteristics and various beliefs commonly espoused. The only true natural resource is the human mind. Contrary to Thomas Malthus (1798), that resources are limited, each human being brings his or her own wealth of ideas, imagination and creativity. What are commonly referred to as natural resources only become resources when the human mind thinks of them and how they can be utilized. As one such natural resource is depleted, another is discovered. For example, fossil fuels have already been replaced in part by uranium, which may be replaced by thorium. We will always think of something, if only we think. If we do not think, we will think of nothing. Wealth is not a zero sum game. If wealth is all in the mind and the imagination and creativity of the mind is unlimited, then wealth is unlimited. A country that knows where it is going will not get far. A country willing to create an entrepreneurial environment of risk taking and investment in the unknown may experience unlimited growth. Space travel is one example where the world as it was once known was surpassed. The orderly line up of countries in the GDP vs. CDR chart is remarkable, and suggests global equality of efficiency after adjustments for country factors of productivity. The key to high GDP is to attract capital and direct it to the best democratic and rule of law abiding industries. The obvious recommendation is for low GDP countries to raise their CDR and for high GDP countries to assist them wherever possible to expand entrepreneurship and raise the size of the world's economy (Ridley, 2016, Ridley, Davis, Korovyakovskaya, 2017) for the benefit of all.

Nomenclature

<i>Endogenous</i>	Generated from within a system.
<i>Entrepreneurship</i>	The process of starting a business, typically a startup company offering an innovative product, process or service.
<i>Exogenous</i>	Generated from outside a system.
<i>Capitalist</i>	A person who deploys his personal capital so as to maximize his benefit.
<i>Capitalism</i>	Mechanism for the collection and assembly of capital.
<i>Catalysis</i>	The creation of alternative pathways to enable a process.
<i>Company</i>	The instrument of capitalism for the profitable investment of capital.
<i>Democracy</i>	Private work force idea participation and periodic election of public representatives (catalyst for the process of generating GDP from capital).
<i>Gross domestic product</i>	The monetary value of all the finished goods and services produced within a country's borders in a specific time period (economic growth = GDP per capita).
<i>Limited liability</i>	Limitation of loss to capital invested.
<i>Property rights</i>	Property is a legal expression of an economically meaningful consensus by people about assets, how they should be held, used and exchanged.
<i>Rule of Law</i>	Reverse of corruption (protection of shareholder and other property rights) (catalyst for the attraction of capital).
<i>Shareholder</i>	An owner of shares in a company.

REFERENCES

Auty, R. (1993). *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. London: Routledge.

Barclay, P. and Stoller, B. (2014) Local competition sparks concerns for fairness in the ultimatum game. *Biol. Lett.* 10, 20140213–20140213. doi: 10.1098/rsbl.2014.0213; pmid: 24850897

Barro, R. J. (1996). Democracy and Growth, *Journal of Economic Growth*, 1(1): 1-27.

Berzelius. J. J. (1779–1848). https://en.wikipedia.org/wiki/J%C3%B6ns_Jacob_Berzelius.

Brandstätter, H. and Königstein, M. (2001) Personality influences on ultimatum bargaining decisions. *Eur. J. Pers.* 15, S53 –S70. doi: 10.1002/per.424

Brosnan, S. F., and de Waal, F. B. (2014). Evolution of responses to (un) fairness. *Science*, 346(6207), 1251776.

<https://www.youtube.com/watch?v=t6OsVUlp7Y0>

<https://www.youtube.com/watch?v=2BYJf2xSONc>

Churchill, W. (1943). Commencement ceremony at Harvard University. <https://www.quora.com/Winston-Churchill-once-said-that-the-empires-of-the-future-will-be-empires-of-the-mind-What-does-this-mean>

de Soto, H. (2000). *The Mystery of Capital*, Basic Books, N.Y.

Dominiak, P. (2016). A Synthetic Indicator of a Company's level of Intellectual Capital, *Operations Research and Decisions*. 26(3): 5-20. DOI:10.5277/ord160301.

Ebrahim-zadeh, C. (2003). Back to Basics: Dutch Disease. Too Much Wealth Managed Unwisely. *Finance and Development*. 40(1): 50–51.

Friedman, M. (1912-2006). <https://www.youtube.com/watch?v=bILldpGbVf0>
<https://www.youtube.com/watch?v=pYDvk2JVuV4>

Gilder, G. (2013). *Knowledge and Power: The Information Theory of Capitalism and How it is Revolutionizing our World*, Regnery Publishing, Inc., Washington, DC.

Güth, W., Schmittberger, R. and Schwartz, B. (1982). An experimental analysis of ultimatum bargaining. *J. Econ. Behav. Organ.* 3, 367–388. doi: 10.1016/0167-2681(82)90011-7

Gwartney, J., Lawson, R. and Hall, J. (2015). *Economic Freedom of the World Annual Report*, Fraser Institute, Vancouver, B. C.

Hirschman, A. O. (1958). *The Strategy of Economic Development*. New Haven: Yale University Press.

Humphreys, M. (2005). Natural Resources, Conflict and Conflict Resolution. *Journal of Conflict Resolution*. 49: 508–537.

Jensen, K., Call, J. and Tomasello, M. (2007). Chimpanzees are rational maximizers in an ultimatum game. *Science* 318, 107–109. doi: 10.1126/science.1145850; pmid:17916736

Lotto, B. (2017). *Deviate: the science of seeing differently*, Orion Publishing Group, London.

Malthus, T. R. (1798, 1970). *An Essay on the Principle of Population*, Pelican Books, London.

North, D. C. (1991). Institutions, *Journal of Economic Perspectives*, 5(1): 97-112.

Piketty, T. (2014). *Capital in the Twenty-First Century*. President and Fellows of Harvard College.

Ridley, A. D. (2016). The Entrepreneurial Community, *Journal of Management and Engineering Integration*, 9(1): 41-51.

Ridley, A. D., Davis, B., Korovyakovskaya, I. (2017) Entrepreneurial Mindset and the University Curriculum, *Journal of Higher Education Theory and Practice*, **17(2)**.

Romer, D. (1990). Endogenous Technological Change, *Journal of Political Economy*, 98 (5, Part 2), S71-S102

Ross, M. (2001). Does Oil Hinder Democracy? *World Politics*. 53(3): 326–361.

Sachs, J., and A. M. Warner. (2001). Natural Resources and Economic Development: The Curse of Natural Resources. *European Economic Review*. 45(4–6): 827–838.

Sala-i-Martin, X. and A. Subramanian. (2003). Addressing the Natural Resource Curse: An Illustration from Nigeria. *NBER Working Paper No. 9804*.

Seers, D. (1964). The Mechanism of an Open Petroleum Economy. *Social and Economic Studies* 13: 233–42.

Smith, A. (1776, 2010). *An Inquiry into Nature and Causes of the Wealth of Nations*. Tantor.

Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 70 (1): 65–94.

Wadho, W. A. (2014). Education, Rent seeking and the Curse of Natural Resources, *Economics & Politics*, 26(1):128–156. DOI: 10.1111/ecpo.12029.