



ANALYSIS

# Making development simple. The genetic deterministic hypothesis for economic development

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## Abstract

This paper discusses the dangers inherent in attempting to simplify something as complex as development. It does this by exploring the Lynn and Vanhanen theory of deterministic development which asserts that varying levels of economic development seen between countries can be explained by differences in ‘national intelligence’ (national IQ). Assuming that intelligence is genetically determined, and as different races have been shown to have different IQ, then they argue that economic development (measured as GDP/capita) is largely a function of race and interventions to address imbalances can only have a limited impact. The paper presents the Lynne and Vanhanen case and critically discusses the data and analyses (linear regression) upon which it is based. It also extends the cause–effect basis of Lynne and Vanhanen’s theory for economic development into human development by using the Human Development Index (HDI). It is argued that while there is nothing mathematically incorrect with their calculations, there are concerns over the data they employ. Even more fundamentally it is argued that statistically significant correlations between the various components of the HDI and national IQ can occur via a host of cause–effect pathways, and hence the genetic determinism theory is far from proven. The paper ends by discussing the dangers involved in the use of over-simplistic measures of development as a means of exploring cause–effect relationships. While the creators of development indices such as the HDI have good intentions, simplistic indices can encourage simplistic explanations of under-development.

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## 1. Introduction

A recent paper (Lynn and Vanhanen, 2001) and book (Lynn and Vanhanen, 2002) have put forward

what is perhaps potentially the most radical hypothesis in the post-colonial history of what is now called ‘development’. As a reviewer (Rushton, 2003) of the book has pointed out “*This is a book that social scientists, policy experts. And global investment analysts cannot afford to ignore. It is one of the most brilliantly clarifying books this reviewer has ever read.*” The authors attempt to explain why it is that

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some countries in the world are less economically developed than others and what can be done to help redress this? These really are big questions, and the debate over answers has raged since the 2nd World War when ‘development’ is often said to have been born (Crenshaw and Ameen, 1994). The meaning of development and what can be done to address underdevelopment are highly contentious. Indeed some are highly critical of commonly applied meanings of development used by the development industry and suggest that it is an invention and reflection of highly unequal power-differentials with little real difference being made in practice (Estreva, 1992; Escobar, 1995). Others counter such ‘postist’ (post-modern, post-structural) arguments as being deconstruction for the sake of it while the poor remain poor and instead point to the real differences that aid and structuralist interventions can make (Blaikie, 2000).

The Lynn and Vanhanen argument represents a whole new vision quite distinct from the ‘postist’ critiques or the supporters of development aid. In their view the different degrees of national economic development can be explained in part by the innate ability of those living in the country and this can be proxied by ‘national IQ’. In short the larger the national IQ then the greater the ‘innate ability’ of the population to increase its income and hence Gross Domestic Product (GDP). It is claimed that as intelligence is in part genetically determined then economic development can also be thought of as a function of race. Some countries do well because the races within them have better intelligence (i.e. innate ability) than other countries. In effect this is a ‘deterministic economic development’ hypothesis that goes far beyond explanations based on stubborn, but not irresolvable, unequal power relationships arising as a result of exploitative history and trade, more conducive environment or different availability of natural resources. If true the implications of this hypothesis are highly significant as it implies that the gap between rich and poor is here to stay with limited potential for closure (Rushton, 2003). Only through ‘improvement’ in genetic makeup (selective breeding or eugenics) or through interventions that can compensate for poor genes can economic progress be made.

Given the potential importance of this hypothesis if found to be true this paper will review the evidence

for deterministic economic development. The data, analyses and interpretation of Lynn and Vanhanen will be summarised in the first part of the paper along with a brief summary of its roots in studies of intelligence and race. Their ideas will then be critiqued, in part through an extension of their methods and assumptions into human development as presented by the United Nations Development Programme in its Human Development Reports. Finally the paper will discuss some of the lessons arising from all this, most notably the marked persistence of and dangers inherent within efforts to simplify something as complex as development into a few data sets, having questionable quality, and indices.

## 2. IQ and race

There is a long history of attempts to determine a genetic basis for IQ, and in this paper it is only possible to allude to a few such studies. The current consensus of opinion is that one can derive strong links for individual performance on a range of intelligence tests. This is perhaps not intuitively surprising given that a good performance on one form of intelligence test suggests that the same individual will also perform well on another test. Using factor analysis it has been consistently shown that approximately 40% of the variation in the results of such tests can be explained by a vector (usually referred to as general intelligence or ‘g’; Spearman, 1904, 1927). The current consensus is that ‘g’ has a biological basis (Brody, 1998, 1999), with some even pointing to a specific site within the brain (Duncan et al., 2000).<sup>1</sup>

Assuming a genetic basis for ‘g’ and hence what could be called intellectual ‘ability’ (or ‘appetite’ as some prefer; Plomkin, 2001) an extension has been to explore influence on a range of human activities including income generation and even social correlates such as crime and poverty (Jensen, 1998). A further dimension has been to explore racial differences in intelligence.<sup>2</sup> While within race variation is acknowl-

<sup>1</sup> See also the papers published within a Novartis Symposium on the Nature of Intelligence held in London, 30th November to 2nd December 1999. Editors are G. R. Bock and J. A. Goode.

<sup>2</sup> There are many examples, but Spearman (1927) and Miele (2003) provide two examples spanning 70 years.

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