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BOOK REVIEW

IQ and the Wealth of Nations

IQ and economic development
Richard Lynn and Tatu Vanhanen
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Reviewed by MR Palairet

This book is simple in conception. By taking estimates of IQ for almost every country in the world, and running these against per capita gross domestic product (GDP) data at various times since 1820, Lynn and Vanhanen show significant positive correlations both of absolute GDP per capita levels and of long-run rates of national economic growth against IQ. IQ is shown to be a powerful predictor of both these dependent variables, although not, of course, a monocausal explanation. By employing regression analysis, the authors isolate deviant data points, and try to explain why the individual countries they represent at these points in time deviated significantly from the expected trend-line values.

Many of the IQ statistics on which they draw must inevitably be subject to significant errors, especially as data were available only for 81 out of the 185 countries analysed, with the rest assigned IQs equal to, or averaging those of adjacent countries. One might have reservations for example about using a small sample test for Croatia in 1952 to allocate Croatia an IQ of 90, extraordinarily low for a central European country, and then to apply the average of this and a figure of 95 for Slovenia as their data point for 'Yugoslavia' – that is, Serbia – which is not a neighbour of Slovenia, and it is not hard to find other anomalies and assumptions verging on the heroic. Still, the compilation is sufficiently massive to tolerate them in the interest of comprehensiveness.

However, it is not only the IQ estimates (used by the authors as the independent variable) that are insecure, so too are the estimates of per capita GDP, particularly those relating to the 19th century. Angus Maddison is an undeniably authoritative source for these. However, the historical data are based on nonmodern sources, emanating from an age when the concept of GDP or national income had yet to be formulated, so that many key components were altogether missing, and are sometimes proxied by borrowing from relationships displayed by underdeveloped economies of apparently similar structure and income, but at very different times in history. In other words, they are only as valid as the assumptions fed into them. For example, 19th century data sets seldom yield useful data on the service sector. Moreover, the sort of statistics that can be picked up with a degree of reliability are those that reflected modernisation rather than traditional economic activity. For example, rail transportation generated precise data, while volumes of goods (and passengers) transported by road were rarely collected, coal use may be known, but not that of firewood, large-scale industrial output is usually ascer-

tainable, but not that of cottage industries, cereal output is picked up but seldom that of livestock products. All these omitted traditional activities happened to be major contributors to income in relatively backward economies. Even the figures for advanced economies are approximate. For example, for Britain we have no secure agricultural statistics until the 1860s, because the state did not collect them. And in many cases, even population figures were subject to wide margins of error.

Thus the assumptions and proxies can dominate the data. Consider the authors' regressions for 1820. According to the Maddison figures, China's GDP per head was 523 standardised dollars of 1990 value, while that of the UK was 1756. A very recent estimate of per capita agricultural incomes in the Yangtse delta region of China by Robert Allen of Oxford, compared with that in England suggests that the average Chinese farmer in circa 1800, after paying rent, consumed 10 567 calories per man-day equivalent, while his English counterpart, consumed 16 789 calories. In terms of labour productivity in farming, Allen's figures for England and the Yangtse are nearly identical, and if anything to the Chinese advantage. Of course these figures say nothing about productivity in industry, but they do suggest that the Maddison figures grotesquely overestimate the Britain–China gap at this time. In the authors' Figure 7.2, China is represented as a huge outlier, with a very low GDP relative to IQ, whereas, if anything the Allen figures would predict Chinese GDP in 1820 as falling on or above the regression trendline. The other big negative deviant is, interestingly, Japan. Yet, we know that Tokugawa Japan in 1750–1850 probably achieved impressive GDP per capita growth, despite its seclusion. This was partly as a result of population control, which prevented gains in agricultural productivity and the spread of cottage industry from being diluted by population growth, and Susan Hanley has suggested that in terms of mass living standards, early 19th century Japan did not fall much below England.

Another heavy outlier (for 1820) is Russia, with GDP of 751 and an IQ of 96. The authors explain its negative deviation (like that of China and Japan) as the result of Russia's being a 'traditional autocracy'. Maybe, but Russia was also, despite (or possibly because of) serfdom, a highly productive country, which by the carefully computed estimate of Ian Blanchard attained a per capita income in 1807 equal to that of Britain, and thus stood at the top of the World league table of that period. Such a finding would not have surprised contemporaries who were aware not only of Russia's superrich aristocracy, but also of the coarse abundance enjoyed by its hard working and enterprising peasantry. Readjustment of these figures for China, Japan and Russia would transform the 1820 regression statistic, and provide massively positive evidence for the authors' central contention.

I am not suggesting that the data should be revised in this way because it would be unscientific to tweak certain data points without revising them all. An economic historian would, I think, tackle the problem through examining economic growth performance rather than absolute levels of per capita output, and try to

isolate the contribution of IQ as one of several influences on performance. Neoclassical analysis would invite use of a variant of the much used Cobb–Douglas production function as a means of measuring the comparing change in total factor productivity (TFP) between economies. TFP growth is the measure of change in the efficiency with which all factor inputs were used – after extracting the contributions to growth made by increments to resources, capital and labour. If national IQ has indeed been a significant contributor to growth, this should show up in much stronger correlation between IQ and TFP growth than between IQ and per capita GDP, or IQ and growth in per capita GDP. This is because per capita GDP has inevitably been influenced by the relative abundance of natural resources (real estate and subsoil wealth) and of the value of the national capital stock of accumulated wealth, while change in per capita GDP would have been influenced by incremental change in natural resources, capital accumulation and change in the labour force participation rate. Most obviously, the TFP measure should sift out the effects on growth of output of, say, fossil fuel and mineral discoveries, the opening up of abundant fertile land, or a high domestic savings schedule, factors which have clearly accounted historically for a significant part of the difference between the wealth of nations.

This is not just to pinch out the 'Qatar' problem of oil wealth in distorting relative achievements (pp. 104, 106). For example in 19th century Europe, where national IQ differences have been small, natural resource endowments played a significant role in determining relative output levels and performance. The nature of 19th century technological change placed a premium on disposing abundant coal types suitable for metallurgical purposes and raising steam, preferably in association with high-grade iron ore, and farmland with an orographic balance capable of sustaining nitrogen fixing crops. Britain and Belgium had both, the Mediterranean lands had neither, France was in an intermediate position, and in an age of high transport costs, before a/c electricity could be harnessed (1895), human intelligence could make only a limited contribution to compensating these disadvantages. This showed up in relatively low output and growth in southern Europe.

In searching for explanations of deviant economic performance, the authors suggest that one problem was 'intellectual failure' among political leaders who were 'insufficiently intelligent to understand the basic princi-ples of market economics' (p. 162) and therefore imposed inefficient communist and socialist systems on their countries. In this respect, Lenin, Mao, Castro and Tito are compared unflatteringly with Adenauer and Erhard. However, in the medium run, central planning systems applied in the Soviet bloc and Yugoslavia after World War II, although inefficient, were probably growth inducing for an extended period from the 1950s to 1970s. In manufacturing technology, easy gains could be secured by forced industrialisation, if backed up with a massive effort in training engineers, and the rigorous suppression of consumption. During this period, Yugo-slavia probably achieved the highest economic growth in Europe. However, in the mid 1970s, systems of this type ceased to deliver fast growth, and the mechanisms needed to adapt to market-based economics were not implemented.

Among minor errors, China's precocious medieval experiment in paper money (p. 175) was abandoned after it brought about a devastating inflation, and paper money was used in Europe long before the 19th century. In the 1580s, widely circulating Monte di Pieta banknotes were officially accepted as cash by the Neapolitan state, the Swedish authorities circulated Riksdaler banknotes from 1661, and goldsmith notes began to circulate at about the same time in England. The output of subsistence farming is, contrary to the authors' claim, picked up in historical GDP statistics. And when discussing causes of Britain's relative growth retardation (relative to Germany) in the late 19th century (p. 163), the authors emphasise the competition-stifling emergence of cartels, whereas Germany was far more highly cartelised than Britain, and recent studies suggest that the German cartels probably speeded technological change by redu-cing investment risk.

Despite the limitations of their statistical databases and methods, Lynn and Vanhanen have launched a powerful challenge to economic historians and development economists, who prefer not to use IQ as an analytical input. It is likely therefore that this work will be studiously ignored, whereas it urgently needs to be refined and built upon.

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