

When Iceland Was Ghana

Thorvaldur Gylfason *

Believe it or not: in 1901, Iceland's per capita national economic output was about the same as that of today's Ghana. This is remarkable because it took Iceland just three generations – a hundred years! – to lift the yoke of centuries-old poverty from its shoulders and become one of the world's most affluent countries, ahead, as we speak, of Denmark and Sweden. This observation raises two burning questions. First, can Iceland's rags-to-riches story be replicated in Ghana and elsewhere in Africa? Second, if so, what would it take?

So let me begin in 1901. My grandmother was twenty-four at the time, so what I am about to lay before you is what Hans Rosling, a Swedish professor of international health and producer of computer software, has called grandmother-verifiable statistics. My grandmother had six children, as was still common in Iceland in those days, even if the average number of live births per woman had decreased from almost six in the early 1850s to four around 1900, like in today's Ghana. Remarkably, the number of live births per woman in Iceland, having continued to fall, then climbed back to about four by 1960 as the average age of mothers fell, so Iceland and Ghana are separated in this case not by a whole century but rather by half a century or less. Put differently, it took Ghana less than fifty years, from 1960 to date, to reduce the number of births per woman by three, from almost seven to four. It took Iceland a century and a half, from the late 1850s to date, to reduce the number of births per woman by three, from five to two (or 2.1 to be precise, the critical number that keeps the population unchanged in the absence of net immigration).

Ghana has made more rapid progress on the population front than many other African nations. The average number of live births per woman in Sub-Saharan Africa has decreased from 6.7 in 1960, as in Ghana, to 5.3 in 2005. These averages, however, mask a wide dispersion in fertility across countries. Mauritius is down to two births per woman compared with almost six in 1960. Botswana is down to three, from seven in 1960. The women of Kenya, Tanzania, and Uganda now have five, six, and seven children each on average compared with eight, seven, and seven in 1960.

The point of this comparison of demographic statistics is that social indicators often provide a clearer view than economic indicators of important aspects of economic development. Besides, several social indicators of health and education – fertility, life expectancy, literacy, and such – are readily available for most countries and in

*The author is Professor of Economics at the University of Iceland and editor of the *European Economic Review*. His books include *Understanding the Market Economy* (with A. J. Isachsen and C. B. Hamilton, Oxford University Press, 1992) and *Principles of Economic Growth* (Oxford University Press, 1998). For several years, he has written a weekly column for Iceland's leading daily newspaper, *Frettabladid*. The African statistics reported in the article are taken from the World Bank, *World Development Indicators*, 2007. The Icelandic figures come from Statistics Iceland (www.hagstofa.is). Address: Faculty of Economics and Business Administration, University of Iceland, 101 Reykjavík, Iceland. Tel.: +354-525-4500. Fax: +354-552-6806. Email: gylfason@hi.is

some cases reach farther back in time than many economic statistics. Fertility matters for human capital accumulation, a key source of rapid economic growth. This is because most families with many children cannot afford to send them all to school and, thereby or otherwise, to offer them the opportunities they would need to have to realize their full potential and make the most of their lives. Families with fewer children – say, two or three – have a much better shot at being able to offer a good education to every child, girls and boys alike, thus opening doors and windows that otherwise might have remained shut. Reducing family size, therefore, is one of the keys to more and better education and higher standards of life. As Hans Rosling has pointed out so vividly in one of his video presentations, short lives in large families are no longer a common denominator in developing countries.

Around the globe, also in many parts of Africa, there is a clear trend toward smaller families and longer lives. In Ghana, for example, life expectancy at birth has increased by more than three months per year since 1960, from 46 years in 1960 to 58 years in 2005. In Sub-Saharan Africa on average, all 48 countries included, life expectancy increased less rapidly, from 41 years in 1960 to 47 years in 2005. Average life expectancy is now on the rise again in Africa, having reached a peak of 50 years in the late 1980s and then decreased mostly on account of the HIV/Aids epidemic that tragically reduced life expectancy at birth in Botswana from 65 years in 1987 to 35 years in 2005.

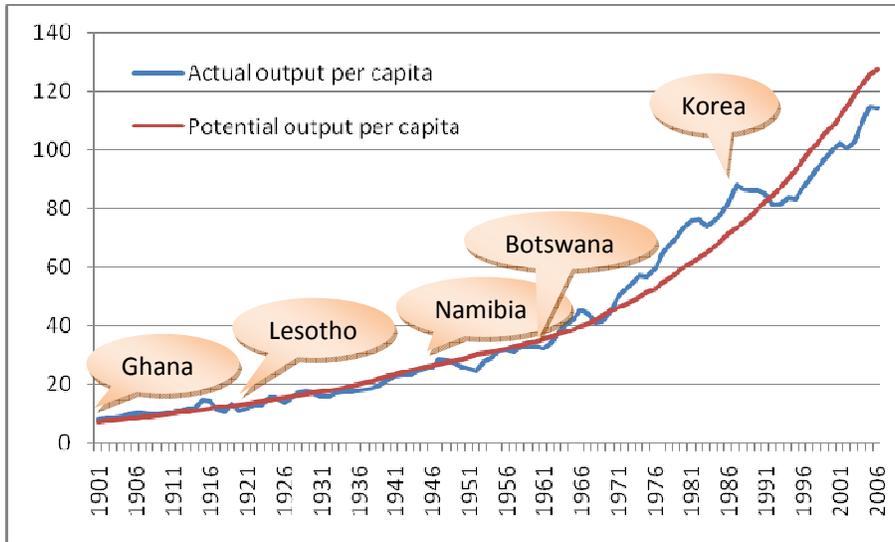
Let us now return to Iceland and briefly trace its economic history since 1901 through African eyes, as it were. In 1901, as stated in the introduction, Iceland's Gross Domestic Product (GDP) per capita was about the same as that of today's Ghana, measured in international dollars at purchasing power parity. This observation, illustrated in the chart, follows from two simple facts:

- (a) Iceland's per capita GDP has increased by a factor of fifteen since 1901, a mechanical consequence of an average rate of per capita output growth of 2.6 percent per year from 1901 to 2006;
- (b) In 2006, at USD 2,640 at purchasing power parity, Ghana's per capita GDP was about one-fourteenth of Iceland's per capita GDP of USD 36,560.

With the passage of time, Iceland's economy grew. The uneven trajectory in the chart traces the ups and downs of Iceland's actual per capita GDP, whereas the smooth one shows Iceland's potential per capita output, conventionally estimated by a simple regression of actual per capita GDP on time, thus abstracting from business cycles. By 1920, Iceland's per capita GDP had reached the level of today's Lesotho. By 1945, Iceland had become Namibia and by 1960, Botswana. By 2006, Botswana's per capita GDP had climbed to USD 12,250, one third of Iceland's (and ahead of Russia's USD 11,630, by the way, but that is beside the point). Put differently, Iceland's per capita GDP in 1960 was one third of what it is today, and its annual growth rate of 2.6 percent a year tripled the level of per capita GDP from 1960 to 2006. By 1985, leaving Africa behind, Iceland had become South Korea. Such is the force of compound growth.

How did Iceland do it? To make a long story short, upon achieving Home Rule in 1904, Iceland accumulated capital at a fairly rapid pace, all kinds of capital, for this is what capitalism in a mixed market economy is all about: physical capital through saving and investment, human capital through education and training, foreign capital through trade, financial capital through banking, and social capital by means of democracy, institution building, and equality. Natural capital also played a role, first the rich fishing grounds offshore and later, increasingly, hydro energy and geothermal energy, but the key to the successful harnessing of the country's natural capital was its earlier buildup of human capital. And human capital, probably, is the single most important key to Iceland's growth performance, with smaller families and steadily longer lives. When Home Rule was achieved in 1904, most of Iceland's impoverished population was already literate because literacy had been near universal since the end of the 18th century. So, Icelanders were well prepared for the modern age into which they were catapulted at the beginning of the 20th century. Not only is the general level of education made possible by near-universal literacy good for growth, but the social conditions – law abidance, for example – that make near-universal literacy possible are almost surely also good for growth. We do not have exact measures of literacy in Iceland in 1900, but statistical information on the number of books published is available. In 1906, the number of books in Icelandic published per one thousand inhabitants was 1.6, which is more than in today's Norway and Sweden. By 1966, the number of books published in Icelandic per one thousand inhabitants had climbed to 2.7, which is where matters now stand in Denmark and Finland. By 2000, the figure for Iceland had risen to seven books published per one thousand inhabitants. It is possible that, with small editions of each book, small countries such as Iceland (population 300,000) have room for more titles. Be that as it may. Reading is good for growth.

At the beginning of the 21st century, African societies face a double challenge. First, they must achieve near-universal literacy because education is the key to the buildup of human capital as well as other types of capital, and also the key to growth-friendly management of natural capital. In 1970, 28 percent of adults in Sub-Saharan Africa knew how to read and write. By 1990, Africa's literacy rate had increased to 51 percent and by 2006, to 61 percent. Youth literacy – that is, literacy among those between the ages of 15 and 24 – had risen to 73 percent in 2006. The literacy gap must be closed as quickly as possible, with no child left behind. With near-universal literacy, Ghana should be able increase its per capita GDP by a factor fifteen – why not? – in three generations, or less, as Iceland did by practicing democracy and piling up capital of all kinds through education, trade, and investment, and so should other African countries as well. True, most African countries have farther to go than Ghana whose per capita GDP in 2006 was twice that of Kenya and almost four times that of Malawi. We have work to do.



Through African Eyes: Iceland's per Capita Output 1901-2006 (2000 = 100)