



# Work/Jobs

## The potential of digitisation in Ghana

Jakkie Cilliers

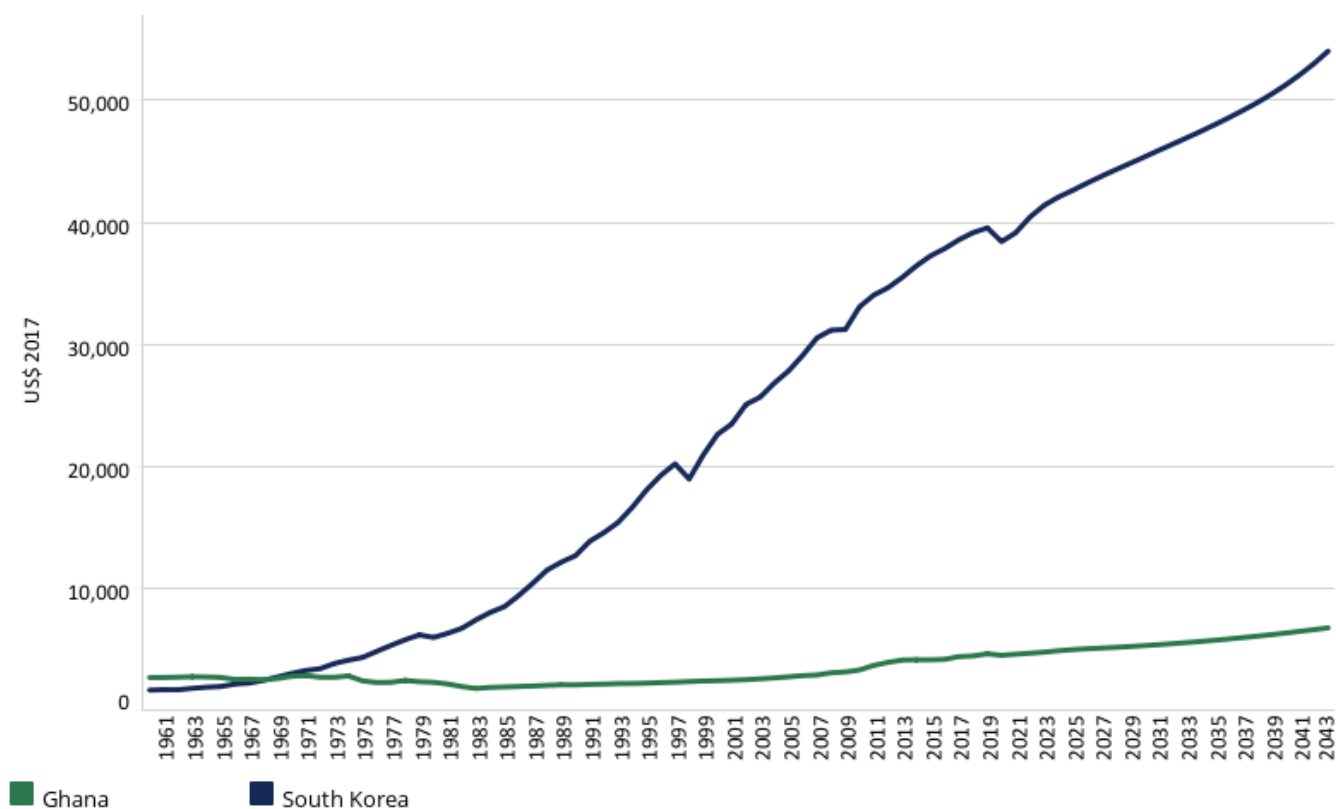
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## The potential of digitisation in Ghana

Academics often compare the dismal development outcomes in independent Ghana with the stellar progress made in South Korea.

When Ghana and South Korea gained independence, South Korea was the poorer of the two, but today its average income level is nine times that of Ghana (Chart 14). South Korea had few natural resources; in contrast, Ghana has, for five centuries, been part of a region known as the Gold Coast, and the mineral is still Ghana's most valuable export.

Chart 14: GDP per capita for Ghana and South Korea, 1960–2043



Source: IFs 7.63 initialising from UN Population Division World Population Prospects medium variant life expectancy and World Development Indicators data

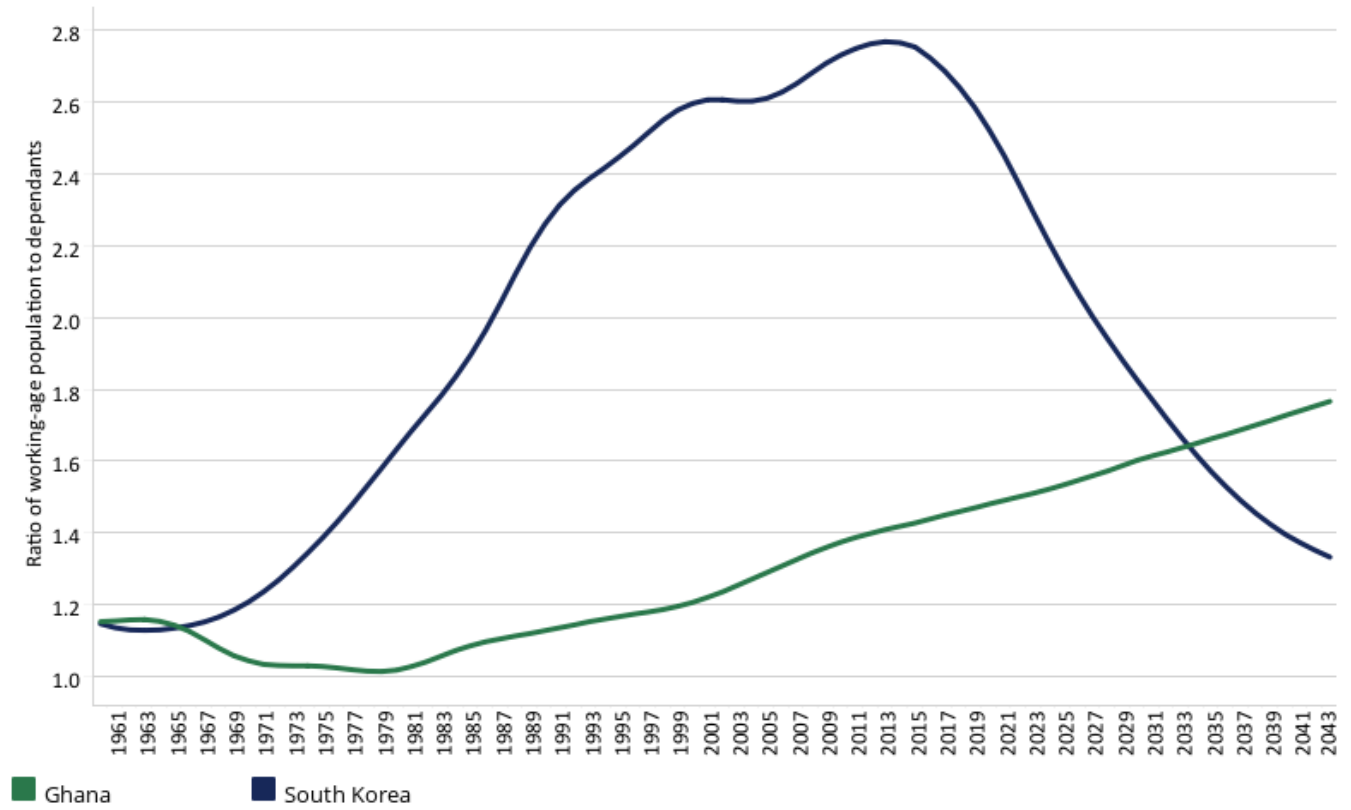
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South Korea placed its focus on food self-sufficiency, basic education, family planning and the provision of basic healthcare. Because it managed to reduce its rates of fertility rapidly, it experienced a steady increase in the number of working-age persons to dependants. Thanks to this demographic dividend, the ratio of working-age persons to dependants increased from 1.2 in the late 1950s to almost 2.8 in 2016 (Chart 15) – an extraordinarily high ratio, achieved only by China and the other Asian Tiger economies.

The result helped South Korea to transform its economy rapidly. With fewer mouths to feed and schools to build, South Korea could invest in improving the human capital endowment of its existing youthful population to contribute to increased productivity.

Chart 15: Demographic dividend for Ghana and South Korea, 1960–2043



Source: IFs 7.63 initialising from UN Population Division World Population Prospects data

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Labour is only one contributor to economic growth, but with the right policies and technology, Ghana too may now be poised for take-off.

By African standards, Ghana has a small population (around 31 million people). It is more urbanised than most African countries (close to 57% – a rate that South Korea achieved in 1981), allowing for a more rapid transition to digital services and also making it easier to provide water, sanitation and other services. By 2043, 68% instead of 57% (in 2019) of its citizens will live in urban areas – an advantage that will accelerate economic growth and possibly allow Ghana to graduate from its current lower middle-income status to become an upper middle-income country.

Partly because of higher-than-average rates of urbanisation, the total fertility rate (currently at four children per woman) is declining rapidly and Ghana will enter its demographic sweet spot by around 2038, earlier than most other West African countries (although more than half a century later than South Korea). The favourable demographic dividend should subsequently ensure more rapid growth rates, provided that Ghana manages to sustain the progress it has demonstrated towards inclusive, democratic governance over the last decade (as an alternative to South Korea’s autocratic development model) and can leapfrog towards more rapid development by using information and digital systems.

If Ghana can stay its course, that may just be possible.

In 2012, the country introduced biometric voter registration and a smart national identification system (dubbed the Ghana Card), which uses biometrics, has been rolled out – free of charge – since 2018. The process will provide each Ghanaian

with a unique personal identification number (PIN). This is a huge leap forward, as Ghana has, until recently, had no comprehensive identity system, and the pace of roll-out astounds bureaucrats in China and Western countries, where such systems were originally rolled out manually and with great effort over several decades.

A [smart identification card](#) will subsequently be required to open a bank account, apply for a passport or driver's licence, register a SIM card, buy property, register a business or even enrol children in school (children are linked to their parents' identification cards).

Exports or imports are directly linked to the PIN to eliminate fraud and theft in the shipping and clearing of goods at ports and harbours. Already the number of agencies required to inspect a container in Ghana has been reduced from 16 to just three, which cuts a lot of red tape.

Furthermore, the PIN will be used to verify a person's identity during job searches and applications, for e-tickets at airports, at border crossings, police checkpoints and the like. It will eventually become mandatory for the validation of payments, particularly electronic payments.

Most importantly, an identification number allows large portions of the informal sector to be brought into the formal economy.

In addition to the smart identification system, the GhanaPostGPS will provide a unique digital address for each 5 m<sup>2</sup> of land area in a country that previously had no formal system of finding a specific location without local knowledge.<sup>[3]</sup> Armed with a digital address, small and informal businesses can now register for a bank account, access credit and receive deliveries via drones. It basically means that anyone with a phone technically will have a bank account and can get a parcel. [Drone delivery](#) of emergency medical supplies and COVID-19 vaccines has already started with the company Zipline.

Besides many other benefits, these innovations will improve tax collection, as both informal and formal businesses will steadily be forced to use electronic payment systems, which are all part of the formal economy. In turn, this will enable the state to deliver other services, such as education, roads, water and sanitation. The 2019 report on Africa by the United Nations Commission for Africa (UNECA) finds that in the long-term government revenue on the continent can be increased by 12–20% of GDP through the rigorous pursuit of tax and non-tax income collection, which is possible through digitisation. Leveraging digital systems to increase revenue collection through e-taxation increased revenue collection in Rwanda by 6% of GDP. South Africa used online tax payments to reduce compliance costs and the time to comply with the value-added tax by 22%.<sup>[1]</sup>

Soon Ghana will also have a fully digital platform to pay for all government services, including driver's licences and car registrations, and the digitisation of land ownership (as part of the Ghana Enterprise Land Information System project) is slowly progressing. The aim is that a new base map survey (the first since 1974) will use blockchain technology to secure and verify the ownership of all **land**. Furthermore, with the support of the World Bank, the Ghanaian Ministry of Education is adopting modern technology by delivering its lessons through the use of e-learning technology. <sup>[X]</sup>

Technology also enables the documentation of important personal events (e.g. births, adoptions, legitimations and recognitions, deaths, marriages, divorces, separations and annulments), which are fundamental to having a legal identity and guaranteeing human rights and access to public services. It can provide access to finance and information about health, and offers a way to educate and connect people. <sup>[2]</sup>

Modern technology also allows for better policing of something like mining licences, for example. In many African countries, including in South Africa and the DR Congo, illegal mining is rife, often practised by desperate illegal migrants

who mine at night in extremely dangerous conditions. Some [150 drone pilots](#) have already been trained to monitor illegal mining across Ghana.

In recognition of these efforts, [Google](#) opened its first African artificial intelligence research centre in Accra, bringing together top machine learning researchers and engineers. The centre will work with local universities and jointly with a small number of other centres in Paris, Zurich, Tokyo, Beijing, Montreal, Toronto, Seattle, Cambridge/Boston, Tel Aviv/Haifa, New York, and the Google headquarters in San Francisco. In 2021, [Twitter's](#) then CEO and co-founder, Jack Dorsey, announced that Ghana would serve as the company's headquarters in Africa, following the announcement, in 2020, that the secretariat of the African Continental Free Trade Area would be located in Accra.

Many challenges remain, most notoriously the tendency to rush into spending public money ahead of elections on projects that are never completed,<sup>[3]</sup> but Ghana's National Development Planning Commission has now teamed up with the Copenhagen Consensus to create a new initiative, Ghana Priorities, which aims to steer the government away from pork-belly politics by using evidence to assess the return on each cedi spent. By September 2020, the partnership had assessed more than 400 ideas and narrowed them down to 79. An example is a pilot scheme for the early diagnosis of tuberculosis, which could prevent more than 3 000 deaths in six years. Benefits outweigh costs more than 100 times.<sup>[4]</sup>

Ghana also announced its [One District One Factory \(1D1F\)](#) initiative in 2017 as it seeks to change the nature of its economy from one dependent on the export of raw materials to one focused on manufacturing, value addition and export of processed goods. According to its website, the initiative is private sector led, with government creating the necessary environment for businesses to access funding and other support services to establish factories. In this model, 'Ghanaian entrepreneurs will own the companies, operate them and bear all the risks and rewards of the projects.'

Time will tell if this ambitious effort to spread domestic industry across the country can compete with the traditional model that aims to attract foreign companies and that clusters infrastructure and incentives in specialised industrial zones.

## Endnotes

1. United Nations Economic Commission for Africa, Fiscal policy for financing sustainable development in Africa, Addis Ababa: UNECA, 2019, 113.
2. United Nations Economic Commission for Africa, Fiscal policy for financing sustainable development in Africa, Addis Ababa: UNECA, 2019, xiii.
3. Ghana's countryside is littered with half-built bridges, as one example. In fact, since 2000 the fiscal deficit seems to have increased with every election (except for one).
4. Staff writer, High noon for half-bridges, The Economist, 19 September 2020.

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## About the authors

Dr Jakkie Cilliers is the ISS's founder and former executive director of the ISS. He currently serves as chair of the ISS Board of Trustees and head of the African Futures and Innovation (AFI) programme at the Pretoria office of the ISS. His 2017 best-seller *Fate of the Nation* addresses South Africa's futures from political, economic and social perspectives. His three most recent books, *Africa First! Igniting a Growth Revolution* (March 2020), *The Future of Africa: Challenges and Opportunities* (April 2021), and *Africa Tomorrow: Pathways to Prosperity* (June 2022) take a rigorous look at the continent as a whole.

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