

Consider therefore the following narrative: More than 300 digital platforms, mostly indigenous, are operating across the continent. There are also more than 400 high-tech hubs, and more are being added. In addition, venture capital funding into African tech start-ups increased tenfold between 2012 and 2018.

Moreover, manufacturing has more than doubled in size in real terms since 1980. And since 2000, manufacturing value added has grown at more than 4% a year. That is double the average between 1980 and 2000 (numbers from the Expanded African Sector Database).

As a result, total employment in manufacturing in 18 of the largest African economies (for which there is data) grew from roughly 9 million in 2004 to more than 17 million by 2014. That is an 83% increase in ten years. The proportion of labour in manufacturing for Africa as a region grew from roughly 5% in the 1970s to almost 10% by 2008.

So, how will these trends shape the future? I argue that they will result in three varieties of industrialisation.

### Three varieties

The first variety can be labelled “acquiring traditional manufacturing capabilities”. This variety is implied by Overseas Development Institute researchers Karishma Banga and Dirk Willem te Velde. It will be experienced by countries and sectors where technological change is too fast and complex to benefit immediately. These countries and sectors will need time to first put complementary investments in place, while at the same time continuing to promote traditional labour-intensive manufacturing.

The second variety, fostering sec-

tors with the characteristics of manufacturing, is elaborated in a recent UNU-WIDER book. Here it is argued that service sectors can take up the role held by manufacturing in the past. In many countries, services such as ICT and telecoms, tourism and transport, financial and farming services can lead to productive development.

The third variety, resurgent entrepreneurship-led industrialisation, is based on my earlier work. I point to the growing list of achievements of African countries in terms of high-tech manufacturing. For example South Africa leads in advanced manufacturing in having one of the world's largest 3D-printers, used to manufacture parts for the aviation industry.

Different combinations of these varieties will dominate in different countries. For example, Kenya is already experiencing the simultaneous development of high-tech financial services alongside growth in traditional manufacturing, such as food processing and textiles, as well as clusters of advanced manufacturing. While every country's pathway will be a unique combination of these varieties, what they will have in common is that progress will require that they deal with the impact of new technology, especially digitisation, on manufacturing.

To ensure momentum is maintained, the narrative about industrialisation has to change. As Israeli historian Yuval Noah Harari pointed out, neither land – the core resource of feudalism – nor physical capital – the core resource of 20th-century capitalism – will be decisive for competitiveness in the future. Instead, data and data science, free information flows, ICT (data) skills, and decentralisation of decision-making will be the decisive factors.