

Friday@Noon on Manufacturing in Africa: 2018

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The NTU-SBF Centre for African Studies publishes a weekly newsletter on issues relevant to Africa. This paper is based on issues addressed in the newsletter.

Manufacturing in Africa

Manufacturing and industrialisation are the current buzzwords for transforming Africa's economies. In order to reduce any dependence on the extraction and sale of raw commodities, it does make sense to diversify Africa's economies. African economies do seem to struggle with growing and developing their manufacturing sectors and to increase this sector's contribution to their GDP's. In addition to the challenges stated below, we do find that cheap imports from abroad complicate the process even more. These cheap imports range from cheap steel products from China (upsetting steel manufacturing in South Africa) to cheap textile products and second-hand clothing in East Africa, upsetting the textile industry in that region. We then find that countries such as the USA threatening (and implementing) retaliatory action should the East African governments continue with bans against the import of second-hand clothing. In addition to the operational challenges, there is therefore the need to ensure that strategically the countries make the right decision as to where in the manufacturing value chain they decide to invest in. The world of Industry 4.0 can help Africa, but it can also help foreign competitors to a greater extent. What Africa does need is an emphasis on the relevant kind of education – it needs people that can function in a digital manufacturing world.

According to a report authored by Landry Signe (https://brook.gs/2NA5frS), business-to-business spending in manufacturing in Africa is projected to reach US\$666.3 billion by 2030, US\$201.28 billion more than that it did in 2015. Africa is also considered to be the world's next great manufacturing centre, potentially capturing part of the 100 million labour-intensive manufacturing jobs that will leave China by 2030. This trend creates a huge opportunity for Africa, not only for countries such as South Africa, Egypt, and Nigeria (all regional outperformers in the Global Manufacturing Competitiveness Index), but also for newer players such as Ethiopia, Morocco, Rwanda, and others (all of whom have recently adopted policies enabling manufacturing and industrial development). In the Top 40 of the 2016 index, it is only South Africa, Egypt and Nigeria from Africa that figure. For the 2020 projections, there are no additions, and only South Africa is projected to increase its ranking from 27 to 25. The drivers of global manufacturing competitiveness include talent, cost competitiveness, workforce productivity, supplier network, legal and regulatory system, education infrastructure, physical infrastructure, the economic, trade, financial and tax system, innovation policy and infrastructure, energy policy, local market attractiveness and the healthcare system.

Some commentators have suggested that African nations should leapfrog other basic and light manufacturing sectors and develop industrial capabilities and capacity in the auto manufacturing sector. By developing these skills and capacity, African nations will gain the abilities to manufacture other products such as furniture, medical devices, renewable energy systems, consumer durables and electronics, etc. This creates the opportunity for import substitution. As income levels rise, the desire for the freedom of personal mobility also rises. This results in increased demand for personal use vehicles. In Africa there are on average 44 vehicles per 1,000 people. This compares poorly to the global average of 180 vehicles per 1,000 people, and 800 vehicles per 1,000 people in the USA. As economies, incomes, and personal consumption grow, there is significant opportunity for growth in vehicle purchases. If African nations and regions take





the necessary steps to locally industrialize automobile production, this impending growth can be satisfied with locally produced products, which will result in economic growth, the creation of skilled local jobs, and advancements in local technical capabilities. Advancements in mobile technology and software have enabled the application of these technologies to personal mobility, which allows rides or vehicles to be hailed or shared.¹

Various global brands in the auto manufacturing sector have a presence in Africa, from Morocco in the north, to South Africa in the south. Manufacturers in South Africa have been there for decades, tapping into the sophisticated industrial capacity of the country, together with a large segment that could afford to buy vehicles. This includes the likes of BMW, Ford, Mercedes, Toyota and VW. Morocco has a presence of Renault-Nissan, Peugeot Citroen and Tata, to name but a few. The country is second only to South Africa when it comes to auto manufacturing. We have also seen local brands in Ghana and Uganda developing. What is also interesting is the expansion into the rest of Africa, with manufacturers such as Toyota, VW and Kia, to name but a few, deciding to start manufacturing in countries with much lower numbers of people that would qualify to afford a car. The auto manufacturing sector therefore provides a leverage effect that is of great value to Africa's economies. What is becoming clear is that the low numbers in African markets that qualify to buy cars, are forcing auto manufacturers to relook their business models. VW is tapping into the world of mobile technology to develop ride-sharing schemes. We are bound to see more of this in the years to come.

Manufacturing in Rwanda

In Rwanda we saw the development of an assembly plant in Kigali by Volkswagen. In addition, the digital mobility concept, "Moving Rwanda," will connect the production of VW cars, the share usage concept and training. Moving Rwanda is based on the idea that there are more than a billion people in Africa – of them, only about 10 million can afford a vehicle. Then there about 300 million people with up to \$3 in their pocket; getting into this market and getting them mobile creates a massive market to deal with. VW has a comparative advantage, because instead of using taxis, VW will build their own cars with their own rates. These cars will go into the mobility service and be used in the Mobility space. Once they have been used here, they will be eventually sold off as used vehicles. Africa has become a dumping ground for used vehicles from elsewhere. Currently, new car sales in Rwanda is about 1000 cars per year, with a population of approximately 12 million. Rwanda therefore needs time to grow this market. Creating your own supply of second-hand cars to meet a demand currently fulfilled by foreign supply, is an added bonus. The creation of additional jobs and the benefits of import substitution (and maybe even export revenues), is the cherry on top!

As for Rwanda's textile industry, the USA in 2018 suspended duty-free benefits for apparel from Rwanda due to tariffs imposed by the country on used clothing and footwear imports it blames for harming the local textile industry. The now-suspended duty-free benefits came under AGOA, but Rwanda remains eligible to receive non-apparel benefits available under the measure. Affected products accounted for around 3% of Rwandan exports to the USA in 2017, valued at US\$1.5 million, meaning that the vast majority of Rwanda's exports to the United States are not affected. Initially, the EAC was united in its battle against second-hand clothing, but the alliance fell apart

 $^{^1\!}https://qz.com/africa/1281595/what-cars-are-made-in-africa-nissan-vw-ford-are-part-of-automaker-revolution-there/$

²https://www.cnbcafrica.com/videos/2018/05/08/vws-thomas-schaefer-speaks-about-moving-rwanda-digital-mobility-concept/



as Kenya, Tanzania and Uganda withdrew at the prospect of a loss of access to USA markets via AGOA.3

The second-hand clothing industry creates many jobs in Africa and provides the market with affordable clothes. Domestic textile manufacturers, however, cannot make clothes as cheaply as the second-hand items, and are being forced out of business. Tariffs may protect the local manufacturer, but consumers end up paying the higher price. So there is a trade-off somewhere. South Africa's textile industry was destroyed for all practical purposes in the late 1990's due to cheap imports from the East. Rwanda's textile industry has already started to turn towards the EU and the rest of Africa for alternative markets to make up for the loss of exports to the USA. An example of such a strategy is where Ethiopia is now producing textile products for not only companies such as PVH (including brands such as Polo and Tommy Hilfiger) from the USA, but also for H&M from Sweden.

Rwanda has also turned towards the manufacturing of sophisticated technological products. The Mara smartphone project is projected to take the smartphone business in Africa by storm. Developed by Rwandan businessman and billionaire Ashish Thakkar, the Mara group recently announced ambitious plans to develop manufacturing plants in Rwanda and in South Africa. The Group will be investing ~US\$105 million in a South African venture over the next 5 years. There were further plans to develop the phone in plants across Africa. Quality smartphones mean Africa can enable financial inclusion, micro-lending and micro-insurance. This can translate into better education, digital healthcare and agriculture efficiency and improve commerce. Currently, Africa has quality smartphones, but they are not affordable and if they are affordable, it is not quality. The Mara smartphone will be the first high-quality, affordable smartphone to be made in Africa. The phones will also be exported and sold in Europe, making Mara a global player in the market.⁴

This initiative by Ashish Thakkar is a timely one, actually long overdue. The combination of quality and affordability is intuitively a contradiction. However, it has been shown that while consumers in the developed world are comfortable with the contradiction and subsequently either choose for quality or affordability, those in developing countries are adamant they want both. The Mara smartphone will meet the requirements of the consumer in Africa in this regard. It seems to be a case of "for Africa, by Africa!"

Manufacturing in Ethiopia

Africa has been the target of various foreign investments in other fields of manufacturing. As such, machinery manufacturing and importing companies from Ethiopia and Turkey held a consultative forum in Addis Ababa in 2018, attracting more than 60 local and 15 Turkish companies. The purpose of the forum is to create a platform in which companies from the two countries can engage in exporting and importing agricultural machineries and to promote trade and investment relations. The event will help to encourage technology transfer in machinery and balance the trade volume between Ethiopia and Turkey. Ethiopia imports US\$3.6 billion of metals, electronics, machinery and technologies from Turkey, while exporting only US\$433 million of agricultural products, e.g. coffee and sesame.

Ethiopia's manufacturing sector has also been boosted by the government's policies and other incentives. With help from PVH Corp — owner of Calvin Klein, Van Heusen, Izod, Arrow, Speedo, Tommy Hilfiger and other brands — Ethiopia is putting its name and its continent on the clothing map. PVH is the anchor occupant of the industrial park in Hawassa, which employs 15,000

³ https://mg.co.za/article/2018-07-31-us-suspends-duty-free-benefits-for-apparel-from-rwanda

⁴https://mybroadband.co.za/news/smartphones/284122-south-africa-to-start-building-affordable-smartphones.html



workers, with potential to add 45,000 more. The park is environmentally friendly, with state-of-the-art fabric mills and apparel factories running on renewable hydroelectric power and a zero-liquid-discharge treatment plant recycling all the wastewater. PVH says it chose Ethiopia because of its potential to become a truly integrated, vertical supply chain - from growing cotton to dyeing fabrics to sewing the final garments. Creating a new, lower-cost source of clothing was one of the drivers behind the decision to establish the factory in Ethiopia. PVH sees potential for Ethiopia and East Africa to become one of its top seven suppliers. USAID, Britain's Department for International Development, the AfDB, JICA and other international players have also thrown their support behind the Hawassa project.⁵

The reality is that Ethiopia has been setting itself up as a potential factory for those interested in relocating their manufacturing activities to a low cost environment. However, the World Bank shows that the sector's contribution to GDP in 2017 only amounted to 6%. According to Dr Arkebe Ogubay, to make Ethiopia the leading manufacturing hub in Africa requires an annual manufacturing growth rate of 25% and an increase in manufacturing's share of GDP to 20% by 2025. He does indicate that the Ethiopian economy may fall short of this ambitious target. However, he also shows that Ethiopia's government has developed the beginnings of a sharper policy focus. It has encouraged investment in new productive capacity, especially in priority manufacturing activities. Also, a new approach to hub development, agglomeration, and clustering was deemed essential, with the focus on building sustainable, specialized parks that apply a plug-and-play model. Ethiopia's model has been based on systematic learning from various Asian countries, including South Korea, Singapore, China and Vietnam, in addition to Mauritius, Nigeria, and the experience in Ethiopia itself. The quality and volume of FDI inflow has consequently shown very rapid growth and change, with FDI almost guadrupling to US\$4.2 billion in 2016/17 from US\$1.1 billion in 2011/12. Manufacturing drew in more than 80% of FDI during this period. This would include the investment by PVH indicated above. As is frequently the case in Africa, Chinese companies also pay a significant role in manufacturing. According to a 2017 McKinsey survey, about 67% of all Chinese firms in Ethiopia were engaged in the manufacturing sector, which is twice the average of Chinese firms' engagement in Africa.

Ethiopia has been expanding its industrial parks to facilitate a proper environment for FDI. Through providing a location in which the government, private sector and universities cooperate, these parks create environments that foster collaboration and innovation. They also enhance the development, transfer and commercialization of technology and global knowledge. The textile and apparel sector managed to create over 45,000 job opportunities until 2017. Ethiopia has cheap labour, cheap electricity, a conducive investment climate and duty free custom services. Due to these and other incentives, Chinese and Indian textile manufacturers are shifting their plants to Ethiopia. The development of industrial parks in Ethiopia is instrumental in creating jobs for qualified professionals. It enables the manufacturing of quality products that are exportable while promoting the transfer of high tech⁶.

Ethiopia has therefore done well in developing its manufacturing sector and industrialising its economy. It has provided many incentives for foreign textile manufacturers to choose it as the venue for production. In this way, given Ethiopia's participation in AGOA, these producers from China and India get privileged access to the markets of the USA. The expansion of industrial parks has done a lot to facilitate the development of Ethiopia's industry. This is something which the rest of Africa should take cognisance of and copycat to their benefit. The development thereof

⁵ https://share.america.gov/u-s-clothing-giant-adds-ethiopia-integrated-supplier/

 $[\]frac{6 \text{http://www.ethpress.gov.et/herald/index.php/technology/item/11130-industrial-parks-transforming-manufacturing-sector}{\text{manufacturing-sector}}$



would also contribute to the ease of doing business in the respective countries and provide an opportunity for higher skilled labour.

Manufacturing in South Africa

In South Africa, manufacturers based in South Africa often face unique and intricate operational challenges, i.e. labour unrest, an unstable electrical grid, water shortages, harsh conditions and asset risks. The right technology has been advocated as the solution to these challenges to achieve a profitable, seamlessly-run manufacturing plant. It is essential, however, that systems are scalable and can be easily deployed to any new business units or ventures. The solutions should support the overall business strategy and promote lean, cost efficient operations. Effective software solutions deliver key business drivers, while upgrading business process management, enabling effective process standardisation and automation, removing customisations, and leveraging new ERP functionality, while enabling modern digital manufacturing principles. There are distinct challenges that continue to affect the manufacturing industry. Specific business requirements must be addressed, without complicating deployment through customisations.⁷

Manufacturing in Kenya

In order to protect is infant manufacturing sector from being over-run by China's cheaper and more efficient producers, Kenya has refused sign an FTA that China has been negotiating with the EAC states since 2016. Kenya prefers a preferential trade agreement with China, such as the USA's AGOA. Kenya signed a double taxation agreement (DTA) with China in October to incentivize Chinese firms setting up base in Kenya. Kenya is ready to agree on certain commodities that China would want to import so that local exporters can focus on them for the Chinese market.⁸

Kenya is one of the few African countries directly mentioned as a participant in China's Belt and Road Initiative. One does think how the hesitance to sign the FTA will affect this relationship. Also, Kenya's manufacturing sector contributes slightly less than 10% to its GDP, which is less than optimal, to put it mildly. Many clothing retailers also prefer to buy cheap textile products in China and then import them into Kenya, rather than supporting local manufacturers. Kenya must address this issue, which could be a contributing factor to its unwillingness to sign the FTA. The trade balance between China and Kenya, as well as most other African countries, is mostly heavily skewed towards China's favour. Not only Kenya, but Africa in general must address this issue. It is also not just with China, but many other powers outside of Africa have a positive trade balance with their African trade partners. This will require African countries to boost the value-adding sectors of their economies, instead of just exporting raw commodities and later import the higher value-added product.

In order to address the challenge in manufacturing, amongst others, President Uhuru Kenyatta announced his Big Four development agenda at the start of his second term as president. Under his plan, food security, affordable housing, universal healthcare and manufacturing are to receive 100% support from government agencies and policies as a way of improving livelihoods. Manufacturing in Kenya presents a challenge to the government. The manufacturing sector real

⁷ https://www.itnewsafrica.com/2018/02/overcoming-africas-manufacturingchallenges/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:+itnewsafrica+(ITNewsAfrica.com

⁸ https://www.theeastafrican.co.ke/business/Kenya-rejects-China-EAC-free-trade-agreement/2560-4562142-x5dhrgz/index.html?utm_source=newzmate&utm_medium=email&utm_campaign=2318



value-added rose by 0.2% in 2017, compared to a growth of 2.7% in 2016. Output volume of the sector, however, declined by 1.1%, primarily due to lower production of food products, beverages and tobacco, leather and related products, rubber and plastics and non-metallic minerals sub sectors. From 2013, the manufacturing sector's contribution to GDP dropped annually from 11.05% (2013), to 10.76% (2014), 10.54% (2015), 10.22% (2016) and 9.77% (2017). It is therefore no wonder that President Kenyatta identified manufacturing as one of the Big Four priorities. Some would say it is a pity that the Kenyan government imports big ticket items from abroad while they could be procured from within the country. A contrasting argument could be that it is a situation of comparative advantage.

The manufacturing sector's share of GDP has stagnated in the past due to a number of challenges such as high production costs. Government is undertaking a number of reforms, including lowering the cost of electricity, to make Kenya a globally-competitive manufacturing destination. Kenya's local manufacturers are facing fierce competition in East Africa, which has reduced the share of Kenyan exports. Kenya is planning to exploit the numerous trade agreements signed to diversify export markets. They also want to push more exports into lucrative markets such as Ethiopia, the DRC, Nigeria and Angola. The government has set a target to create over 1.3 million manufacturing jobs in the next 5 years through access to key strategic markets in Africa, Europe and the USA. The key to double digit growth of exports is value addition of raw materials, which are readily available in Kenya, especially in the agricultural and mineral sectors.⁹

Boosting the manufacturing sector in Kenya is part of President Kenyatta's Big Four Priorities. The manufacturing focus is on 4 subsectors: agro-processing (tea, coffee, fruits, meat), textiles and apparels, leather products, and fish processing. Other sectors include construction materials, iron & steel, ICT products and mining, oil & gas. In addition to the high production cost environment, the weak business environment has also constrained the growth in the manufacturing sector. What is also looked at, is to move to local production to cut down on costs. Some examples suggested by institutions such as KenInvest, include focussing on motor vehicle assembly, commercial vehicle assembly, food processing and packaging. Developing industrial parks, SEZ's and EPZ's and also part of the approach to grow the sector. It is crucial that Kenya's manufacturing sector investigate as many opportunities as possible to raise the sector's productivity and output. To raise the contribution of the sector from 9% (current level) to 15% (the targeted level) by 2022 and creating 1.3 million jobs in the process, are very ambitious targets. The strategy of value addition is a valid strategy, one that many countries in Africa aspire towards. We need to see much more of this strategy manifesting in Africa. As Zambia's president Lungu said, it is time to talk less and do more! Boosting the manufacturing sector does create the opportunity for foreign investors to become involved in Africa. With a market of 1.2 billion people, and the vision of a continental free trade area, there are many opportunities waiting to be tapped into.

The Leather Apex Society of Kenya (LAS) was launched to promote investments in leather manufacturing. It will also search for export markets for Kenya-branded products. The entire leather value chain had been activated to support full commercialisation, with an emphasis on value addition. Kenya has adequate livestock to support the sector, but it needs to reverse the 90% export of semi-processed leather and turn this into the export of finished products, which will create more jobs and establish more businesses. In 2017, Kenya exported semi-processed leather worth ~US\$48.5 million, up from ~US\$44.6 million in 2016. LAS has roped in tannery operators, jua-kali-based manufacturers as well as pastoralists to create a vibrant value chain. 10

⁹ http://www.xinhuanet.com/english/2018-07/11/c 137315305.htm

 $^{^{10} \}underline{\text{https://www.businessdailyafrica.com/markets/marketnews/Lobby-targets-bigger-leather-export-turf-in-value-addition/3815534-4850356-14g3gse/index.html}$



As it is, Kenya has the 3rd largest cattle herds in Africa, yet import 30 million pairs of shoes annually. Hopefully President Uhuru Kenyatta's "Big Four" strategies will boost the manufacturing sector and convince those active in the leather subsector to produce their own shoes, etc., not only for local consumption, but also for exports. Adding value to leather before exports creates opportunities for investors to become involved in the fast-growing Kenyan economy.

Manufacturing in Uganda

In Uganda, mounting challenges have forced industries to downscale their operations; the sector is operating at only 54% of installed capacity. In Tanzania, challenges such as rising production costs, limited infrastructure and high tax burdens have seen the sector's contribution to GDP decline from 7.6% in 2011 to 4.9% in 2017. This state of affairs has been brought about by the fact that the level of value addition has remained depressingly low. The structure of the sector has meant that it cannot withstand shocks ranging from increases in electricity tariffs, to high taxes, transportation costs and imports from China.¹¹

Uganda's industrial outlook, however, is improving. During the period from July to September 2018, President Museveni commissioned 4 factories. Simba Cement factory in Tororo will create 600 jobs, boost supply and trigger a reduction in the price of cement from sh40,000 to sh25,000 per bag. The Ntinda/Kampala-based Saachi Electronics will produce flat irons, television and radio sets, and a range of communication equipment. It employs 35 Ugandans and will save Uganda millions of dollars in electronics imports. Bushenyi, a tea factory, is processing raw leaves into world class tea. It will create 650 jobs and provide a market for tea out-growers. The same is true of Kyamuhunga Tea factory with an installed capacity of 3 million kgs annually. Investment in electricity has grown supply from 60 MW in 1986 to 2,216 MW of power. Uganda's manufacturing capacity has been growing in tandem. The number of registered factories increased from 80 to 4,725 in the last 3 decades.¹²

Manufacturing in West Africa

West Africa has also started to prioritise the manufacturing sector as a zone of development. In Ghana, the pharmaceuticals industry is expected to reach US\$1 billion in value by end of 2018. However, 70% of pharmaceutical products used in Ghana are imported in spite of the fact that local industry has an installed capacity to supply all domestic needs and enough for export. Most of the imports are from India and China. Some of the challenges that are limiting the sector's growth include inadequate strategic focus and support on the part of government. Another challenge involves limited expertise, which have resulted in the industry relying on India and China to fill vacancies for pharmaceutical technologists and industrial pharmacists. Capital and the high cost of borrowing are additional challenges. This makes it difficult for local manufacturers to compete with their fellows from abroad. The local pharmaceutical sector is ranked as the tenth most attractive market in Africa. The pharmaceutical industry in Ghana and Nigeria was estimated to reach a combined revenue of US\$3.1 billion in 2018.

As it is, Africa has very few indigenous pharmaceutical producers. On the other hand, there are countries with quite large populations that are forced to import pharma products. They tend to lean towards importing the generic versions, given that they are quite cheaper, and you mostly

¹¹ https://www.theeastafrican.co.ke/business/Cheap-imports-killing-East-Africa-economic-dream/2560-4764214-t0ey9vz/index.html?utm source=newzmate&utm medium=email&utm campaign=2318&tqid=1fqzfmcjXlYBDShAgMjnQWytIJs6lDT8uAeBfFABvg\$\$

¹² https://www.newvision.co.ug/new_vision/news/1486357/industrialisation-possibilities-uganda





get the exact some product. In addition to the countries mentioned above, Ethiopia is another country interested in boosting its own pharmaceutical industry. With a population of 100 million people, there is a massive incentive for the development of a generic medication industry in Ethiopia. The same goes for Nigeria (180 million people) and Ghana (29 million people). What these countries need is a "build-operate- transfer" model, in which the infrastructure and skills can be provided and developed. In Singapore, the family-owned Beacons Pharmaceuticals has adopted this approach to expand. Their SPAH model has been designed to optimise the generic BOT model.

Another industry in West Africa that is of concern, is that of the cocoa industry. Europe has for decades dominated the production, consumption and exportation of chocolate. It accounts for 70% of global exports and top 10 chocolate consuming countries in the world. Two-thirds of cocoa come from Africa, mostly West Africa. However, others create, process, sell and eat chocolate. Half the global market in chocolate is supplied by just 17 companies, most of them European. The dominance of these companies comes from innovation, scale, efficiencies, brand and distribution. Those who provide the raw products tend to live on the edge of poverty; those who control the industry are billion-dollar corporations. Africa's growing corporations and young entrepreneurs must ask themselves where in the value chain do they want to play. Where can uniqueness and market power be introduced? Africa must raise its game to move beyond the advantages conferred by nature, and concentrate on the building of sophisticated supply chains and distribution networks, innovative production techniques, immaculate quality control, and eyecatching branding and marketing.

Only about 4% of the total value created in the chocolate industry value chain comes back to Africa. Some commentators have suggested that Africa manufacture its own chocolate. Others have maintained that it is too an expensive product to be consumed at a mass scale in Africa and that exporting it requires an elaborate and costly cold chain. Chocolate must ideally be manufactured close to the point of consumption. We have also seen the governments of Cote d'Ivoire and Ghana suggesting schemes to manage the global price of cocoa, in order to benefit the poor farmers who produce the cocoa. It is like creating an OPEC for the cocoa-producing countries of Africa. It is highly improbable that this will materialise. While it is laudable to aspire towards the building of sophisticated supply chains and distribution networks, innovative production techniques, etc. as suggested above, it is not going to happen in the short-term. Hopefully, as Africa develops, and its middle class keeps on growing, one day perhaps Africa would be in a position to bring these ideas to fruition. Hopefully it will be sooner rather than later.

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