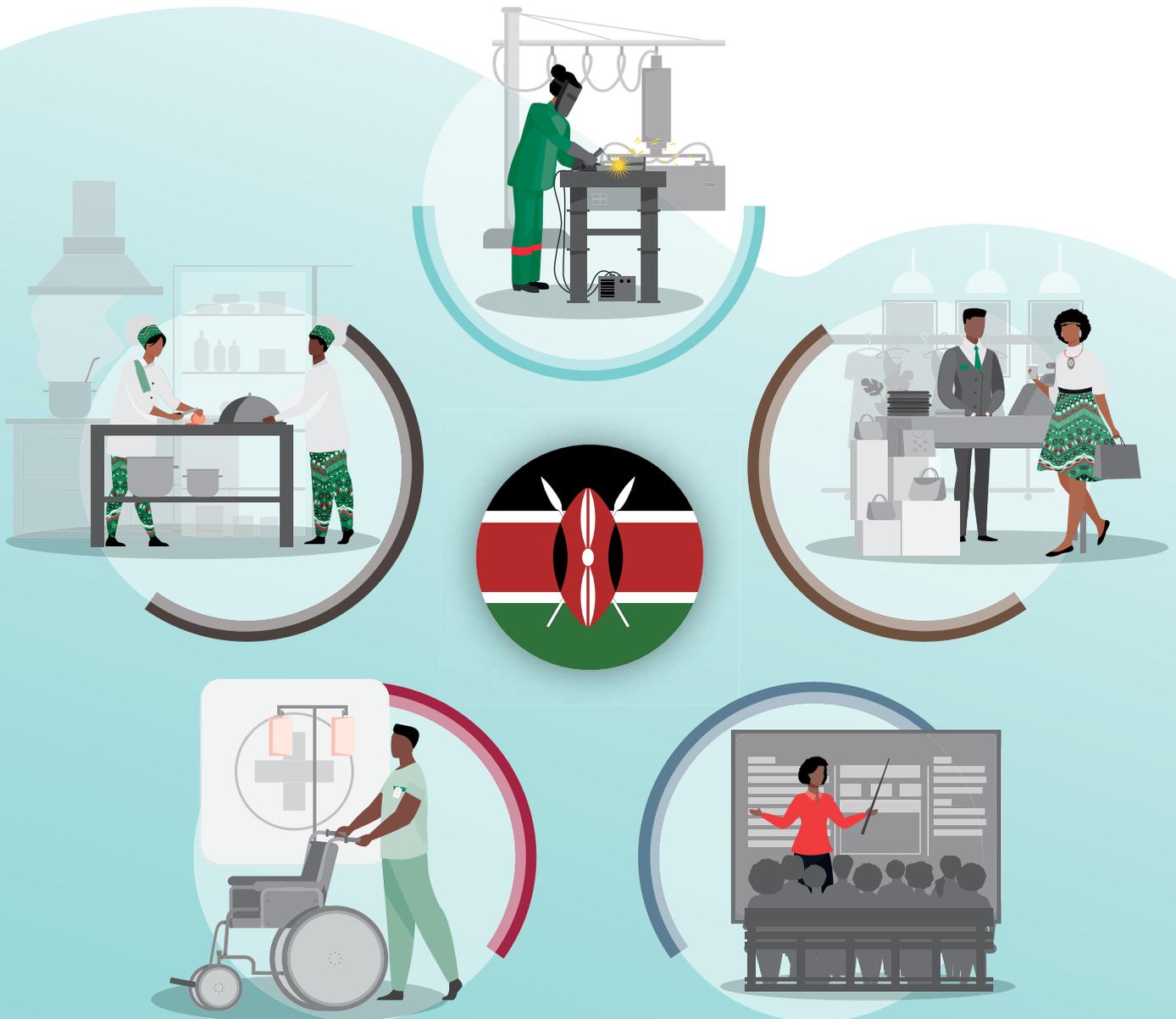


EXTENSION STUDY TO E4D ANALYSIS IN LIGHT OF COVID-19:

Kenya and South Africa

REPORT: KENYA



Acknowledgements

DNA Economics would like to thank all representatives from GIZ, AUDA-NEPAD, and the AUC who have assisted in the creation of this report. A special thanks should be extended to the E4D team as well, who have laid the groundwork for the current analysis of data in Kenya by conducting a study on skills gaps within Kenya prior to the COVID-19 pandemic.

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1 Introduction

The Skills Initiative for Africa (SIFA) is an initiative of the African Union Commission (AUC) and the African Union Development Agency (AUDA-NEPAD) supported by the German Government and the European Union. SIFA promotes occupation prospects of young Africans through the support of innovative skills development programmes and close cooperation with the private sector as an integral key stakeholder in the creation of jobs.

In line with this last point, GIZ under SIFA has tasked DNA Economics to come up with a methodology to prioritize various sub-sectors across 8 African countries. This is done to assist the Skills Initiative for Africa (SIFA), which requires information regarding the direction and extent of its investment and financing in prioritized sectors with a specific focus on technical and vocational training students, and graduates, across various countries. Moreover, it informs decision making on future skills development initiatives of the respective AU Member States.

This research started prior to COVID-19. Of course, COVID-19 is likely to have a large impact on most, if not all, of the economies across the globe. Accordingly, this pre-COVID methodology was adapted to ensure that a COVID-scenario analysis was completed, looking at the potential recessionary impact of the pandemic across the various sub-sectors within the countries of choice.

Given this backdrop, the current report is really an addendum to a full report on skills and development, done through the E4D initiative, for Kenya¹. It looks to explain the methodology followed by DNA Economics in order to obtain reasonable forecasts for sub-sectoral employment and GDP trends with very tight data constraints. This methodology, although quite naive in some sense, provides an indication of which sub-sectors will be worst affected across countries, without any up-to-date macroeconomic data.

As such, the annexure first sets out a methodology brief, before providing some context to the economy. This is followed by a forecast analysis, and concludes with a ranking of every sub-sector based on the indicators set out in the methodology.

¹For this full report which looks at skills supply in Kenya, as well as some aspects of sector prioritization, please contact Sabine Klaus (sabine.klaus@giz.de) or look at the second appendix of the current document

2 Methodology brief

As best as possible, this methodology aims to answer the following question:

“Which 3 sub-sectors would benefit most from a skills development intervention aimed at improving labour market prospects for those entering those sub-sectors?”

When defining which sub-sectors would benefit the most, we focused on a handful of indicators:

Table 1: Indicators Used to Analyse Sectoral Labour Demand

Statistical Indicators

Historical employment and real GDP growth per sub-sector

Covid-corrected employment and real GDP growth forecasts per sub-sector

Historical, and forecasted contributions of each sub-sector to national GDP and national employment

Employment-GDP elasticities (i.e., by how much does employment change if real GDP in a sector changes)

The length of time before the COVID-19 economic shock dissipates per sub-sector

The gender-equitability of each sector’s employment prospects

Qualitative/Literature-Based Indicators

A sub-sector’s prevalence in the literature as a government/donor agency priority

A sub-sector’s perceived susceptibility to COVID-19 as found in research

Because some of these indicators were qualitative, and some are statistical in nature, it would have been arbitrary to combine them without using a statistical technique which corrects for:

1. The relationship between each variable (for instance, real GDP and employment are positively related),
2. The relationship between the same variable over time (real GDP growth in a previous year often pushes up real GDP growth in the current year due to inertia), and
3. What each variable is measured as (combining a % growth rate with the number of years it would take to recover, and so forth).

As such, Principal Components Analysis (PCA) appeared to be most suited to the analysis and was used to combine the indicators into an index of prioritization.

While historical indicators were easy enough to calculate, and while qualitative analysis was easy enough to conduct, the forecasting method was perhaps the most difficult. Due to the scarcity of data (only having data available in yearly format for all sub-sectors from between 2008 to 2018/19), the forecast method chosen needed to be able to work well with small samples. In order to do this, a truly mixed-methods², the technical team chose to follow the methodology outlined below:

²Using quantitative information to inform/mix with qualitative analysis, and/or vice versa, simultaneously.



Box 1: Brief Summary of Forecast Methodology

1



Use literature (Ehlen 2007, for example) to assess the impact of pandemic influenza on national and sub-sectoral growth



Economic growth is expected to decline by 2% in the best-case scenario, and 6% in the worst-case scenario in the year of the pandemic, before smoothing over time

2



From this, forecast national and sub-sectoral real GDP growth until 2024 using a Structural Vector Autoregression (SVAR)

3



Assess the relationship between changes in real GDP and Employment (Mistra and Suresh 2014) at a national and sub-sectoral level. Use these relationships to forecast employment changes given forecasted changes to national and sub-sectoral GDP in step 2

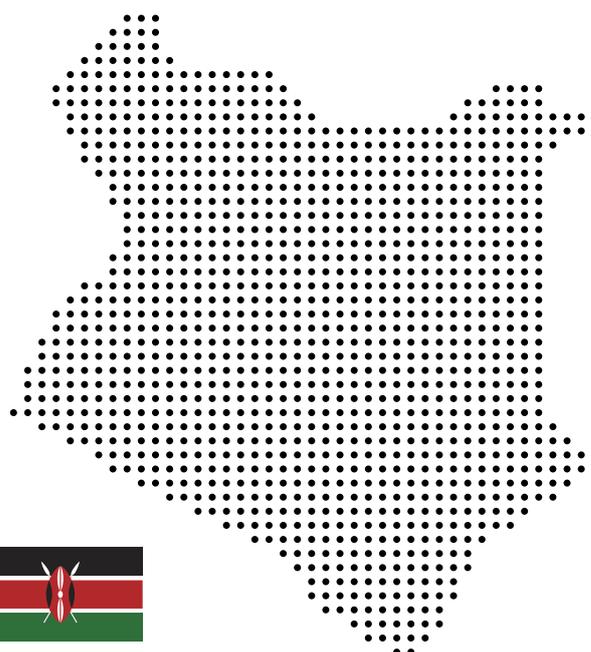
For more information on this methodology, contact Michele Capazario (michele.capazario@dnaeconomics.com)

In short, every scenario of economic decline between 2 and 6% is modelled for at a national level. Using the SVAR, these scenarios are translated into sub-sectoral changes in real GDP, whilst also forecasting how long it would take for each sub-sector to recover to pre-COVID levels. These are then weighted by employment-output elasticities for each sub-sector to understand the extent to which employment in each sub-sector would taper off.

This was followed by a wide stakeholder engagement workshop, which brought together key representatives in Kenya from the TVET and business spaces, as well as focal persons from SIFA offices within the country. These individuals all had vast expertise on elements of labour demand and labour supply within the country, and assisted in honing the findings from the quantitative analysis.

3 Country context

The backdrop for the Kenya economy is set up in the following sub-sections. First, we provide a literature synthesis which assesses which of the sub-sectors within the economy are of priority. For more contextual evidence regarding the Kenyan situation, see the main report to which this report is an extension³



³(Friedemann Gille Consulting, 2019)

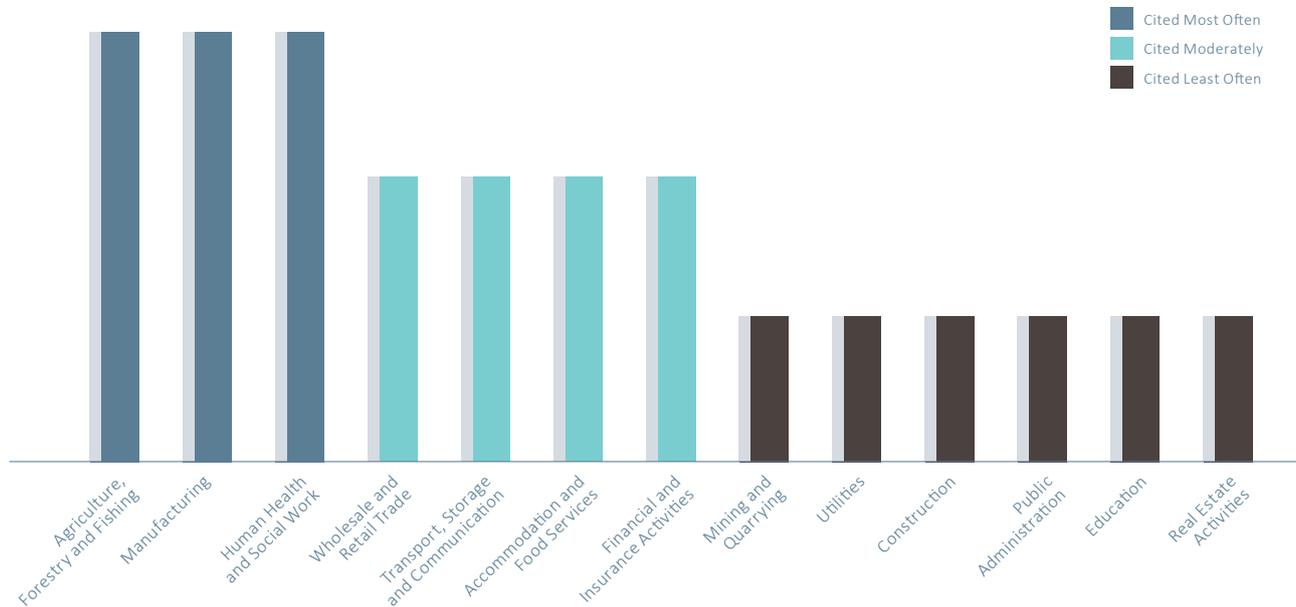


3.1 Stylized Facts from Selected Literature

3.1.1 National Strategic Priority

In order to understand the developmental path of Kenya, it is imperative to analyse literature. This literature, as analysed below, points out which of the sub-sectors are set to be of priority to investors and the state:

Figure 1: Sub-Sectors Priority across Literature Sources



Sources: (The World Bank, 2020); (The International Monetary Fund, 2018); (Secretariat, Vision 2030 Delivery, 2020)

Given the figure, Kenya’s strategic priority can be summarized accordingly:

- a. Major focus is expected to be placed on the agriculture sector in Kenya, like in many other African countries.
- b. Expected improvements in the agricultural sector are also likely, given the literature, to be supported by a boost in manufacturing capacity. This will contribute to the achievement of Kenya’s development goal, suggesting that there is a need for further industrialization within the country.

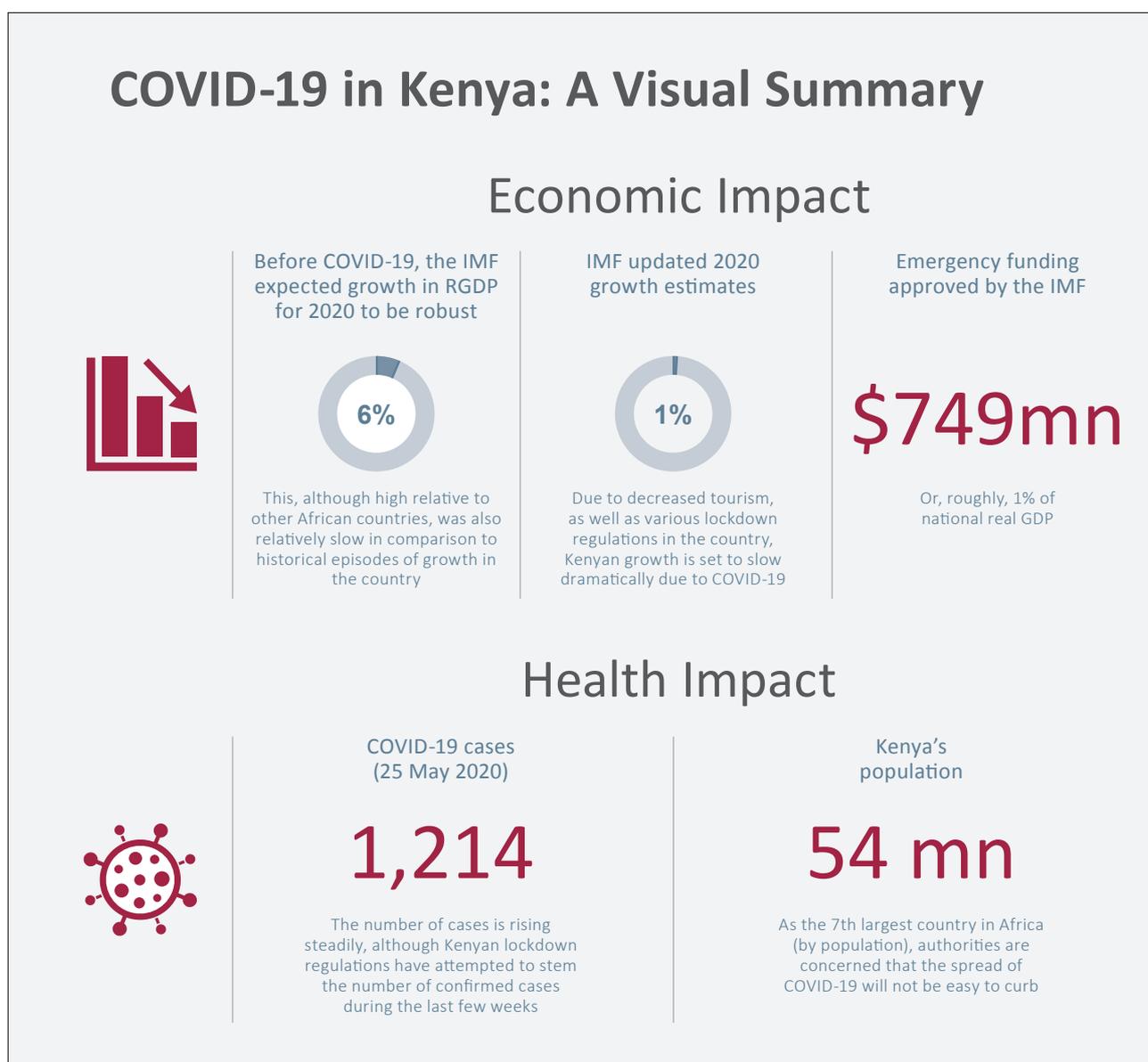
- c. Finally, given the link between strong health outcomes of a population and labour productivity, it is likely that the Kenyan state will focus on the improvement of the health and social work sector.

Notwithstanding this, the Kenyan development agenda is expected to also rely on the improvement of ITC infrastructure, an increase in the contribution of wholesale and retail trade to the economy, and an ever-increasing drive for the economy to strengthen its financial institutions.

3.2 Potential Impact of COVID-19

Because of the uncertainty surrounding COVID-19 and the extent of its economic (and health) impact, the literature analysis also brings out the potential impact that COVID-19 might have on the Kenyan economy. This is summarized below, and part of this analysis is included in the estimation of results further on:

Box 2: Summary of the Impact of COVID-19 on Kenya



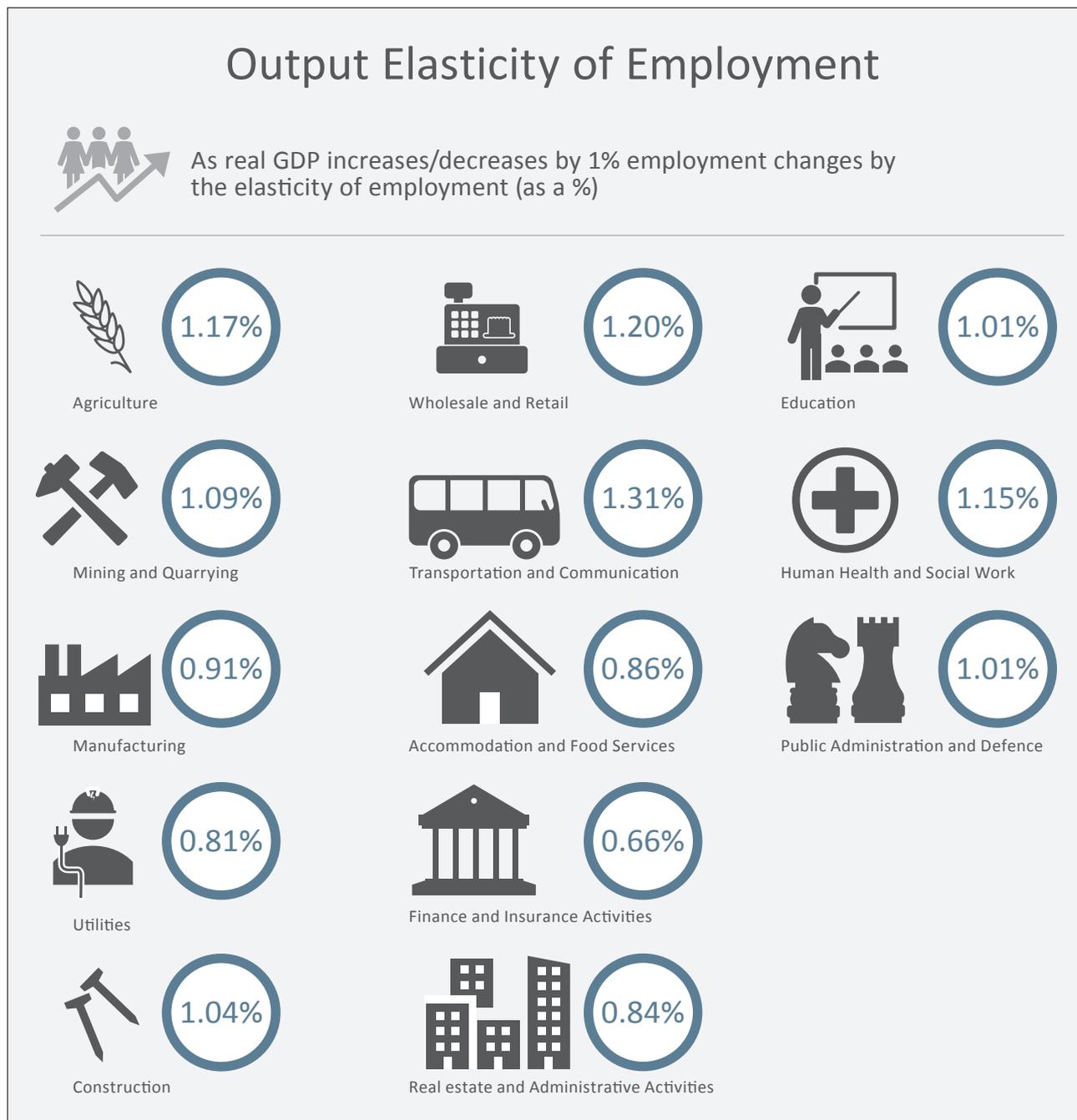
Source: (The East African, 2020); (Reuters, 2019); (The International Monetary Fund, 2020); (Worldometer, 2020); (Worldometer, 2020)

4 Macroeconomic analysis

4.1 Employment-Output Elasticity

In order to forecast in light of Covid-19, it is necessary to understand the relationship between real GDP and employment in order to model relatively accurate scenarios. This is best summarized by estimating the employment elasticity for each sector, as seen below:

Box 3: Output-Employment Elasticity Summary per Economic Sub-Sector in Kenya



Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

Of course, in normal circumstances, the higher the elasticity of employment, the more likely a sector is to incorporate growth into employment. However, the inverse also holds true- if an elasticity is high, then worsened economic growth theoretically translates to far worse losses in employment than if an elasticity was lower. Because this is the mechanism which assists us in modelling employment further into the report, the sectors with the highest employment elasticities are also those most susceptible to economic shocks, namely:

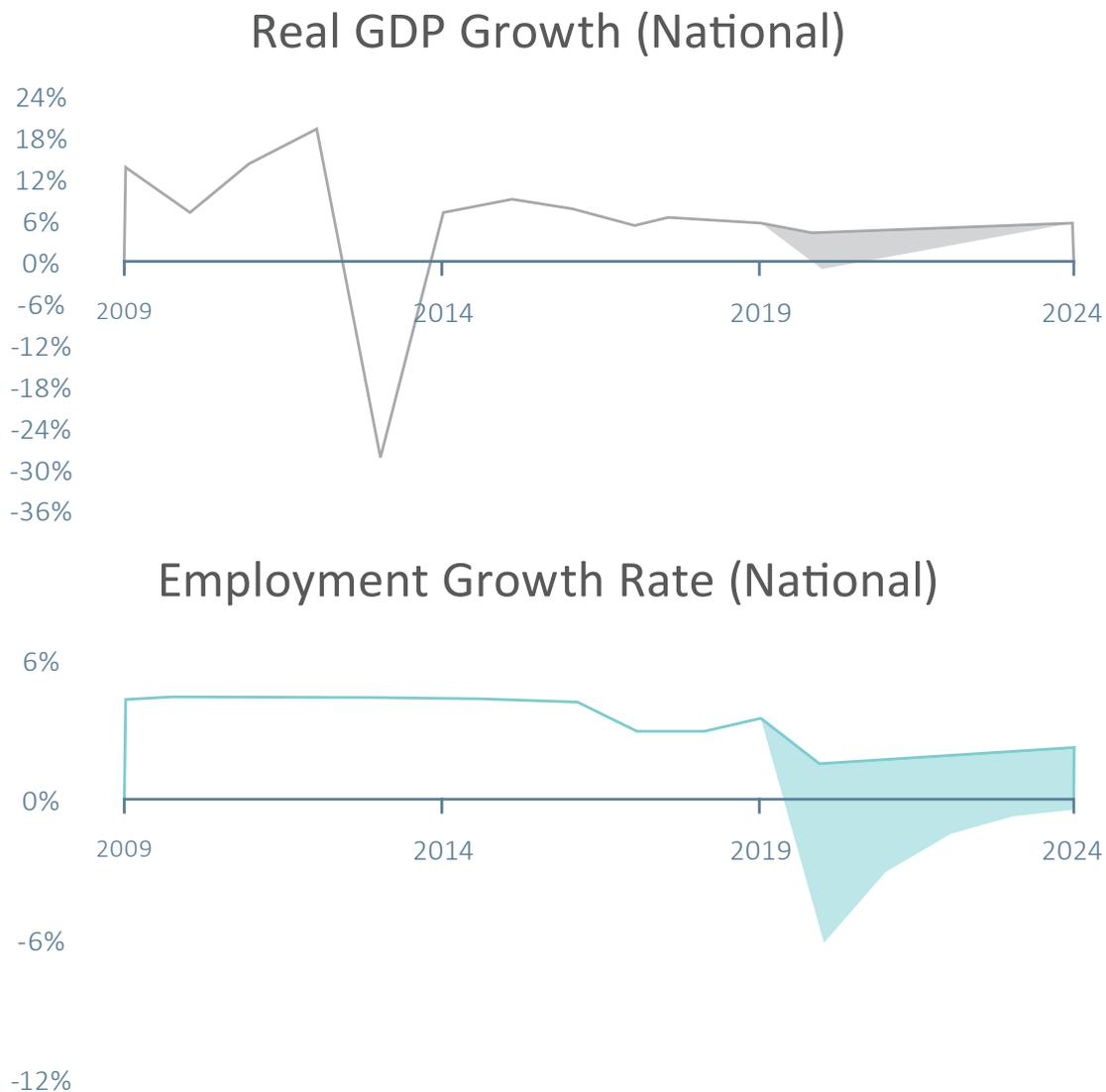
1. The transportation sub-sector,
2. The wholesale and retail sub-sector, and
3. The agriculture sub-sector,

The sector which is least susceptible to an employment shock, on the other hand, is the finance and insurance activities sub-sector, which has a moderate employment-output elasticity of 66%. If GDP were to decline in this sector by 1%, employment would only drop by 0.66%. It is this relationship which assists in the modelling of forecasts for employment growth and decline in the following sections.

4.2 National

At a national level, given that Kenya's historical growth has been relatively high, forecasts show that the Kenyan economy will decline in 2020, but far less than most other African economies. This impact is first explored nationally:

Figure 2: National Real GDP and Employment Forecasts for Kenya



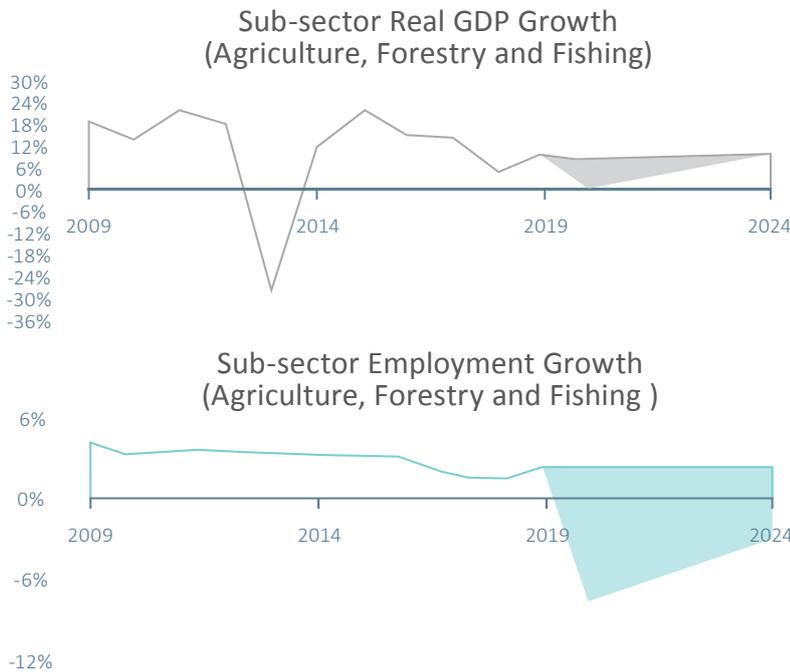
These forecasts show that, relative to real GDP growth of around 5.5% and employment growth of 4% in 2019:

- Due to Covid, the best-case scenario would be for Kenya's national GDP to grow by close to 3%, whilst recovering to 2019 levels post-2023.
- In the worst-case scenario, it is expected that real GDP will decline by up to 0.5% in 2020, before improving slightly over the following years.
- However, because Kenya's employment elasticities (i.e., the sensitivity that employment levels have when there is a change in real GDP) are very high, the forecast suggests a worst-case scenario where employment in the economy declines by up to 5.8%. This translates to approximately 1.35 million jobs being lost in the economy at worst.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

4.3 Primary Sector Forecasts

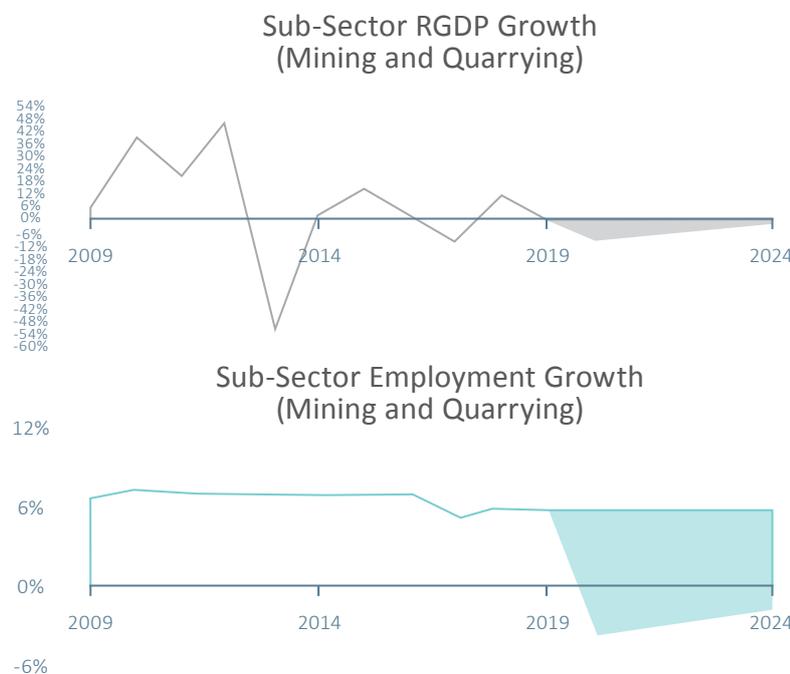
The agriculture sector has been growing extremely well in Kenya historically (at 9% in real GDP terms in 2019). Based on the forecast analysis, though:



- Real GDP gains during the historical period are expected to worsen, and the sector is set to **grow by as little as 0.25% in the worst-case scenario for 2020**.
- This translates to employment declining by, at worst, **8% in 2020**. In the worst case, this implies that **approximately 980 000 jobs could be shed**.
- GDP growth is expected to recover to 2019 levels by 2023/24, but employment is not expected to grow at similar levels to 2019 until after 2024.

Source : Own analysis of data from FG Consulting (2019) and The ILO (2020)

Historically, the mining and quarrying sector has experienced extremely volatile economic growth, although from 2019, the sector has been slowing. The forecast post-Covid suggests that:

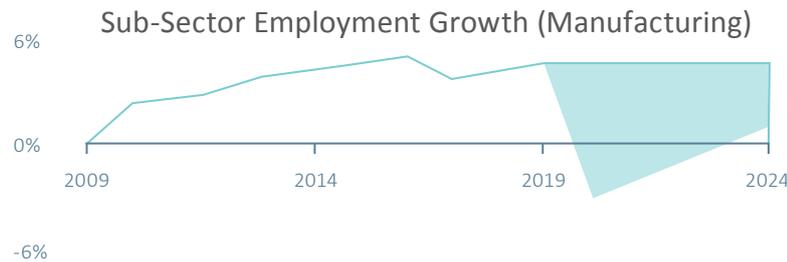
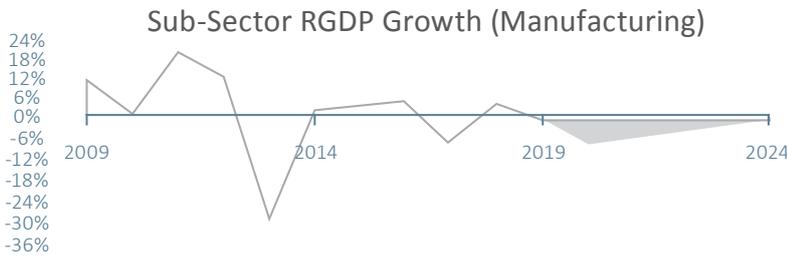


- Real GDP is expected to decline by as much as **10% in 2020**, improving back to pre-Covid levels after 2022.
- This translates to employment which is expected to decline **by 3%**, at worst, (as opposed to growing by 6% in 2019). If this worst case were to occur, **approximately 6 250 jobs in the sector would be lost**.

Source : Own analysis of data from FG Consulting (2019) and The ILO (2020)

4.4 Secondary Sector Forecasts

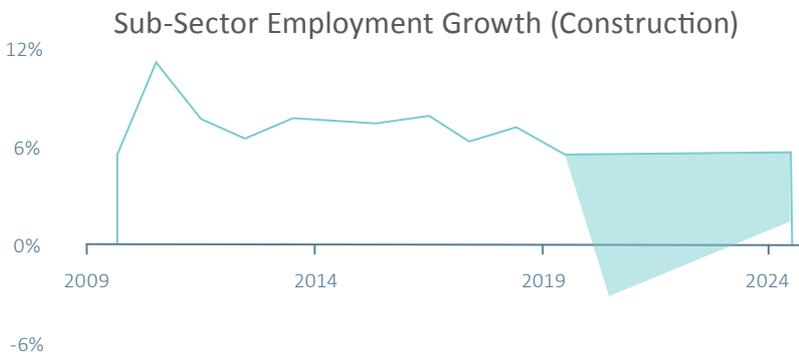
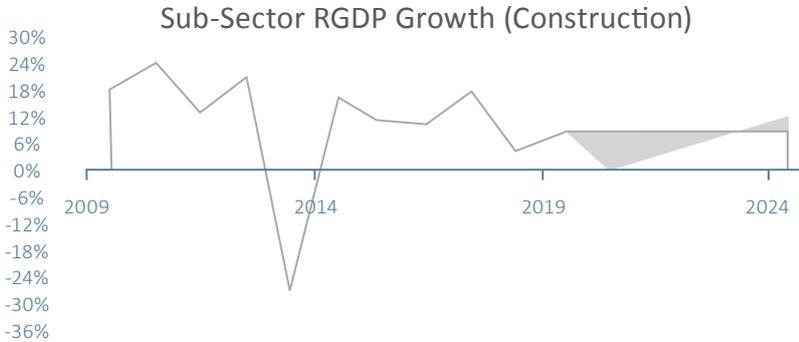
Output growth in the manufacturing sector is expected to weaken in light of Covid-19:



Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

- Real GDP is expected to decline by up to 10% in 2020 in the worst-case scenario.
- Employment, in this context, is expected to decline by as much as 3.5% in 2020 as well. This translates to the sector shedding up to 19 500 jobs.
- In the worst case, real GDP sector will only recover to pre-Covid growth levels by 2024, with employment recovery remaining sluggish in the worst case.

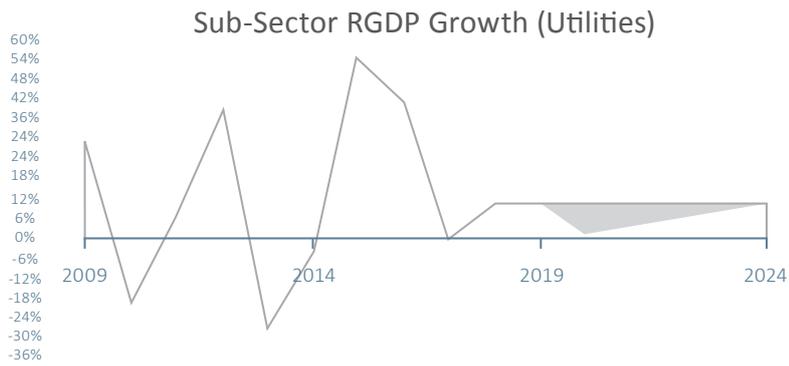
The construction sector forecast analysis shows the following:



Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

- Real GDP, which was growing by around 8% in 2019, is expected to decline by up to 0.5% in the worst-case scenario for the sector in 2020.
- This translates to a decrease in employment of up to 3% (or, 28 000 jobs) in 2020.
- By 2022/23, it is forecast that the sector will recover to more robust growth levels than in 2019.

Forecasts for the utilities sub-sector show that:

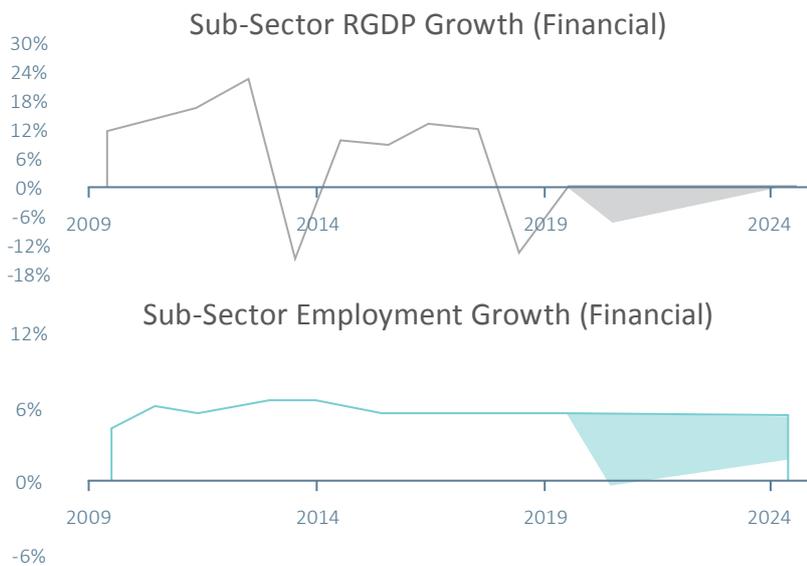


- Real GDP is expected to grow by, 1.5% in the worst-case COVID scenario in 2020. This is given real GDP growth of 10% in 2019.
- This translates to a decline in employment by 1.5% in 2020, at worst (from this, approximately 1 280 jobs could be lost).
- The sector is forecast to recover to 2019 real GDP growth levels by 2023/2024.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

4.5 Tertiary Sector Forecasts

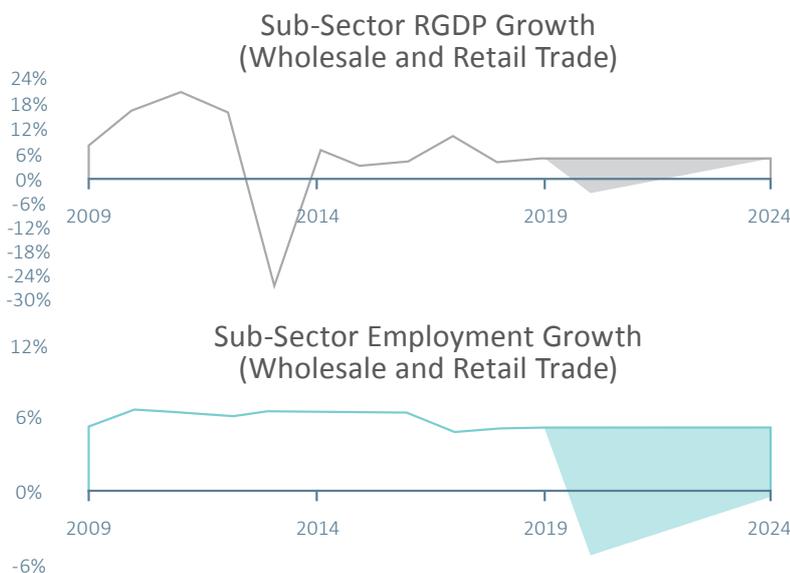
Historically, the financial sub-sector has grown robustly over the historical period. It is forecast to do the following:



- Real GDP, which was tracking sluggish growth of 0.5% in 2019, is expected to decline by, at worst, 8.5% in 2020.
- The forecasting model projects that, as opposed to 6% historical employment growth, the number of people employed will decline in the sector by, at worst, 0.25%, in 2020 (roughly 100 jobs).

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

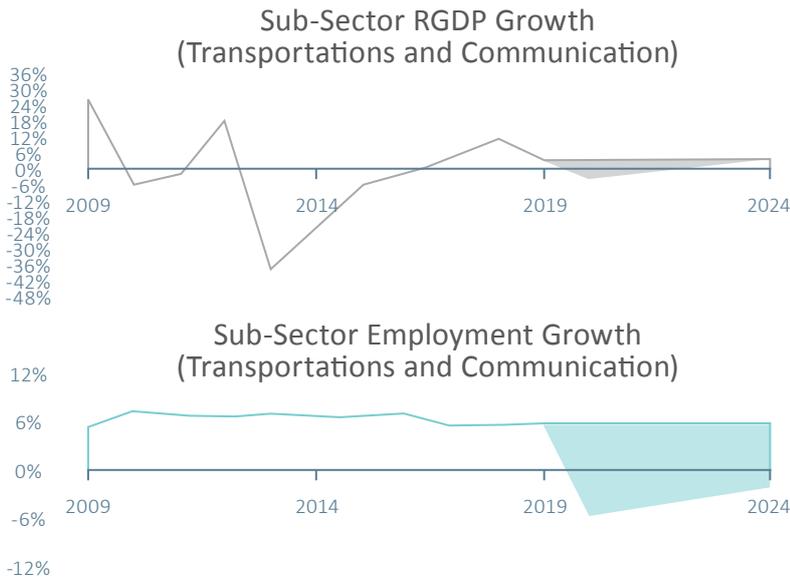
The wholesale and retail sector, historically growing slowly at approximately 5% in real GDP terms, is forecast to decline post COVID-19:



- Real GDP is expected to decline by up to 3.5% in 2020.
- This translates to a decline in employment by as much as 5% in 2020, translating into as many as 195 000 job losses.
- The sector is expected to recover to pre COVID-19 levels of growth by 2023/2024 as well, but to recover only partially in terms of employment after 2024.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

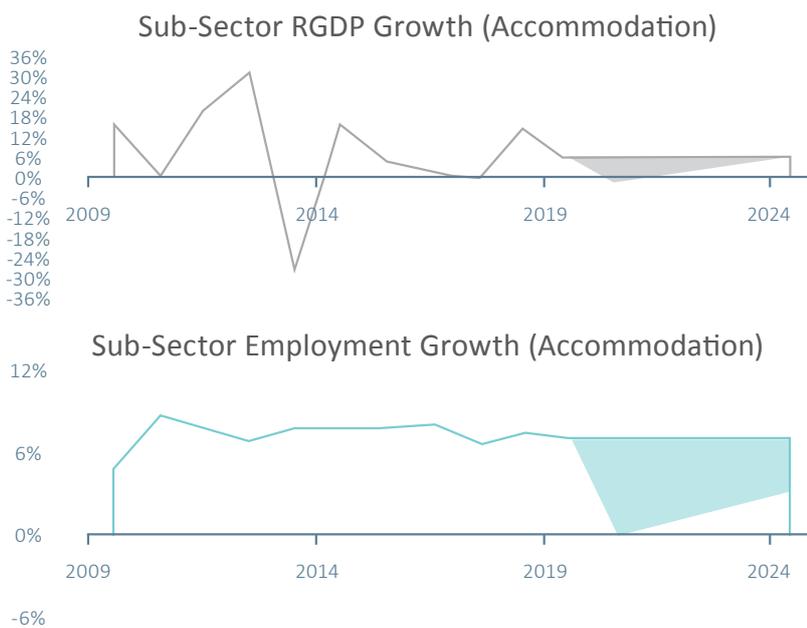
The transportation and communications sub-sector is also forecast to decline:



- Real GDP is expected to decline by up to 5% in the worst-case scenario for 2020
- This translates to employment declining by, at worst, 5% in 2020. This implies that the sector could shed up to 32 000 jobs in the worst-case scenario.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

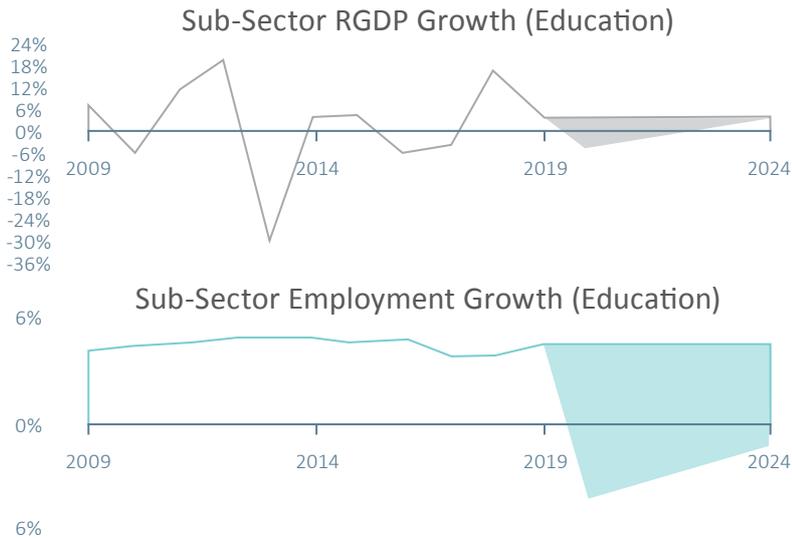
The accommodation sector is forecast to be impacted as well (more so in terms of GDP than in terms of employment)



- Real GDP is forecast to decline by up to 3.5% in 2020 in the worst case.
- This translates to a 0% growth rate in employment for the country. This is compared to historically high year-on-year growth historically of up to 16% in 2018.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

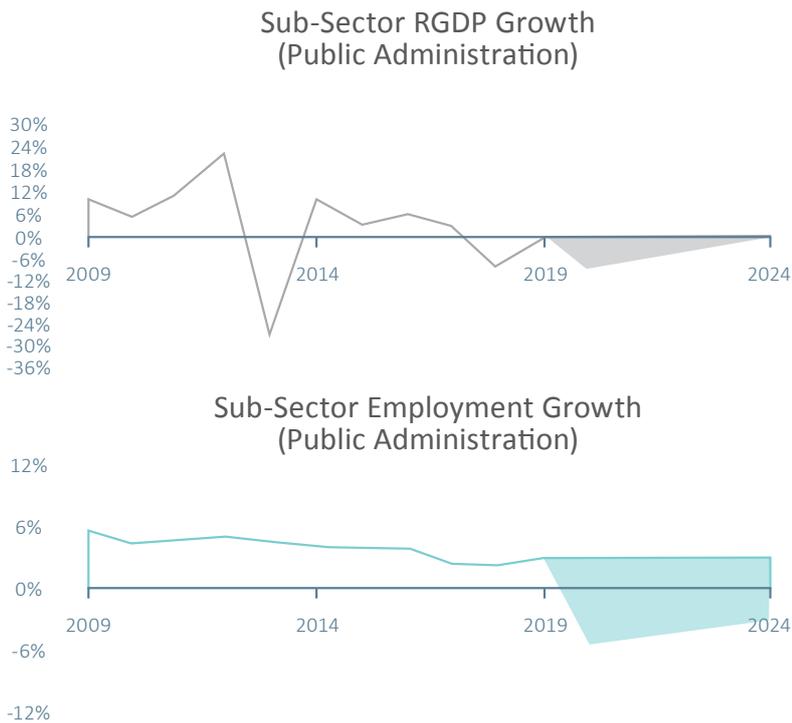
The education sub-sector is also forecast to decline:



- Real GDP is expected to decline by up to 4.5% in the worst-case scenario for 2020.
- This translates to employment declining by, at worst, 5% in 2020. This implies that the sector could shed up to 28 000 jobs in the worst-case scenario.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

The public administration sector is forecast to be impacted as well (more so in terms of GDP than in terms of employment).

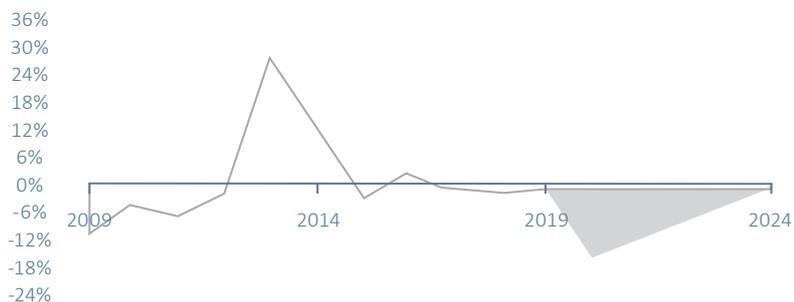


- Real GDP is forecast to decline by up to 9% in 2020 in the worst case.
- This translates to a decline in employment for the country of 6%, where approximately 31 000 jobs could be lost.

Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

Forecasts for the human health and social work sub-sector show that:

Sub-Sector RGDP Growth
(Human Health and Social Work)



- Real GDP is expected to decline by, at worst, 16% in the worst-case COVID scenario in 2020.
- This translates to a decline in employment by approximately 2.25% in 2020, at worst (from this, approximately 28 750 jobs could be lost).
- The sector is forecast to recover to 2019 real GDP growth levels by 2023/2024.

Sub-Sector Employment Growth
(Human Health and Social Work)



Source : Analysis of data from Open Data for Africa (2020); verified by data from The World Bank (2020) and United Nations (2020)

5 Labour supply analysis

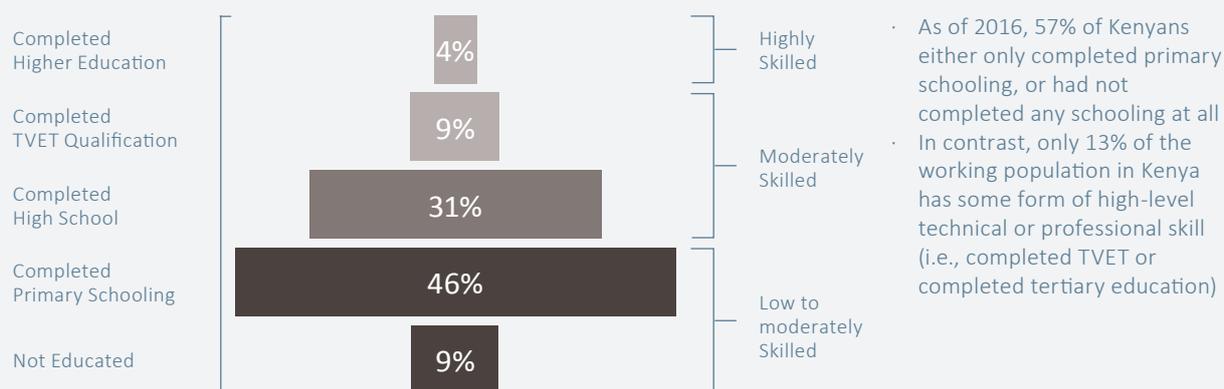
The Kenyan labour market exhibits features of development, but is largely informal. In order to provide

more detailed discussion on the structure of the Kenyan labour market, the following infographic is needed:

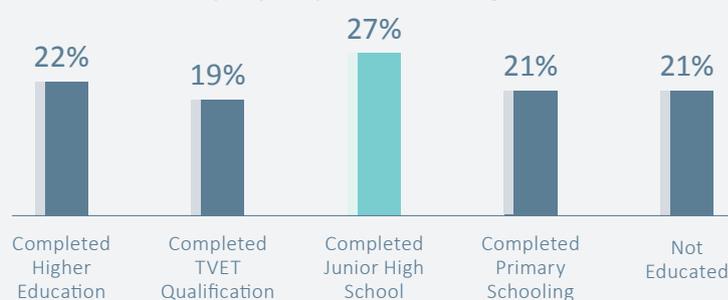
Box 4: Labour Supply Snapshot in Kenya



Education and Training Profile



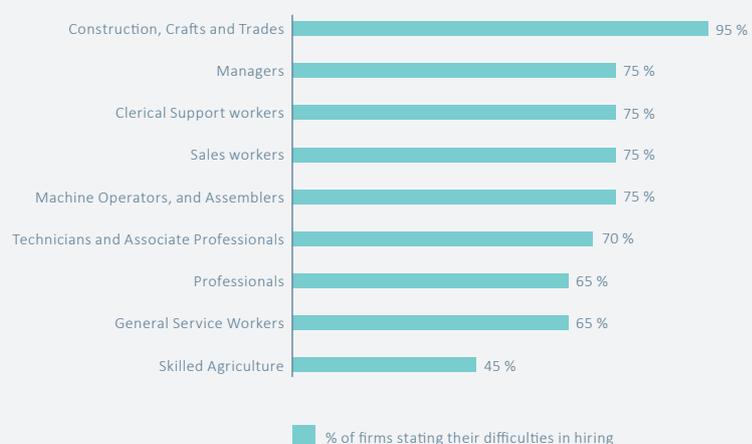
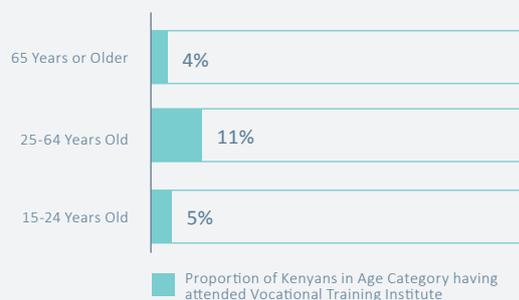
Proportion of Employed Kenyans who are Underemployed per Schooling level



With a national underemployment rate of 35% for those between the ages of 15 and 24, and of roughly 16% for those above the age of 24, it is clear that the underutilisation of labour in Kenya is problematic. This is more worrisome for the cohort of individuals who had completed high schooling.

1.7 million

The number of people in Kenya as of 2016 who have completed some form of post-secondary TVET qualification



According to the STEP employer survey conducted in Kenya, hiring constraints related directly to:

- A lack of adequately skilled applying candidates, and
- A mismatch between what firms need versus what the labour supply in the country offers.

In terms of skills gaps, the survey also suggested that artisanal skills, and professional skills exist in Kenya, across the construction, manufacturing and agriculture sectors, as well as in general service industries:

Source: (The ILO, 2020); (The World Bank, 2020); (The Conversation, 2020); (Kenya National Bureau of Statistics, 2019); (FG Consulting, 2019); (Kenya National Bureau of Statistics, 2018)

From the labour supply analysis, a few key findings should be focussed on:

- The Kenyan economy is characterised by low national unemployment, with more pressing youth unemployment. However, this low unemployment rate masks the high informal level of employment (roughly 84%), and the moderately high self-employment rate alike. These types of employment are not backed by contracts, and as such, are very vulnerable to economic shocks (i.e., there is no contract to fall back on in the event of retrenchment).
- From the perspective of skill, it is clear that the slight majority of the country's workforce is on the lower end of the skills spectrum, having only completed a primary school education at most. In contrast, only 13% of the workforce have high skills levels. This is broken down into 4% of Kenyan labour market participants having completed a degree, at least, and the remaining 9% having completed a post-secondary TVET qualification.
- Underemployment in Kenya is quite pervasive (at least, 19%) across all education levels. However, the underemployment level for TVET graduates in Kenya is the lowest. This means that a TVET qualification is utilised most efficiently in Kenya.
- According to the STEP employer survey, there are gaps in artisanal skills in construction, crafts, and manufacturing (specifically, machine operators and assemblers). There are also soft-skills gaps in the services industry.
 - Because of these skills gaps, there is some degree of mismatch between what employers might require, and what employment candidates have in terms of skills. That said, those with strong TVET qualifications seem to be utilised most effectively in the country.

A rapid skills assessment has been done by the ILO in conjunction with AUDA-NEPAD and the African Union in Kenya⁴ during the COVID-19 pandemic, which looked to survey businesses that worked across many economic sectors in the country. This skills assessment suggests that the accommodation and tourism, manufacturing and education sectors were most affected by the pandemic from a skilling and employment prospects perspective. For example, in the accommodation and food services sector (which houses tourism activity), all firms interviewed unambiguously stated that employment had decreased drastically as a result of COVID-19.

Across these most affected areas of business, the majority of firms revealed that there was a need to train staff to

be able to work from home, and that conducting such training was extremely difficult. However, these firms also identified that- for the most part- the employees which they have already hired are able to assist them in pursuing new opportunities relating to the delivery of goods and services.

This is a key area in which reskilling will be required in the future- in the food industries, innovations such as the development of food delivery services are key to firms surviving the impact of the pandemic. This would require individuals who are able to deliver the food, for example, but would also require individuals who have knowledge in logistics and transportation, who set up routings for deliveries (unless done on small scale). The same can be said for manufactured goods, which can be delivered to individuals off the back of online shopping portals. This creates gaps in skills pertaining to e-commerce in the manufacturing and accommodation and food services sectors, which cut across with wholesale and retail best practices across the globe.

Beyond training on the delivery of goods and services, other skills are highlighted by firms and employees alike that will ease the transition into a post-COVID world in Kenya. The majority of employees under survey identified their top three reskilling needs as:

1. Administrative and customer relations skills,
2. Technical skills pertaining to the jobs that they already have, and
3. Skills relating to the digital economy (improved computer literacy, digital communications and so forth)

These sentiments were echoed by employers across all sectors, who believed that the most critical skills for the post-COVID Kenyan economy dealt with improving digital communications, adapting to a lack of face-time with team members, and ensuring that job-specific technical skills are strengthened.

In terms of the reality on the ground, however, 53% of employees surveyed suggested that they had not received any such training which would assist in ensuring that their job is kept after the crisis. This signals that the response to reskilling needs during the pandemic by employers has been relatively challenging, especially because training costs are high and economic positions of firms in the country have weakened drastically.

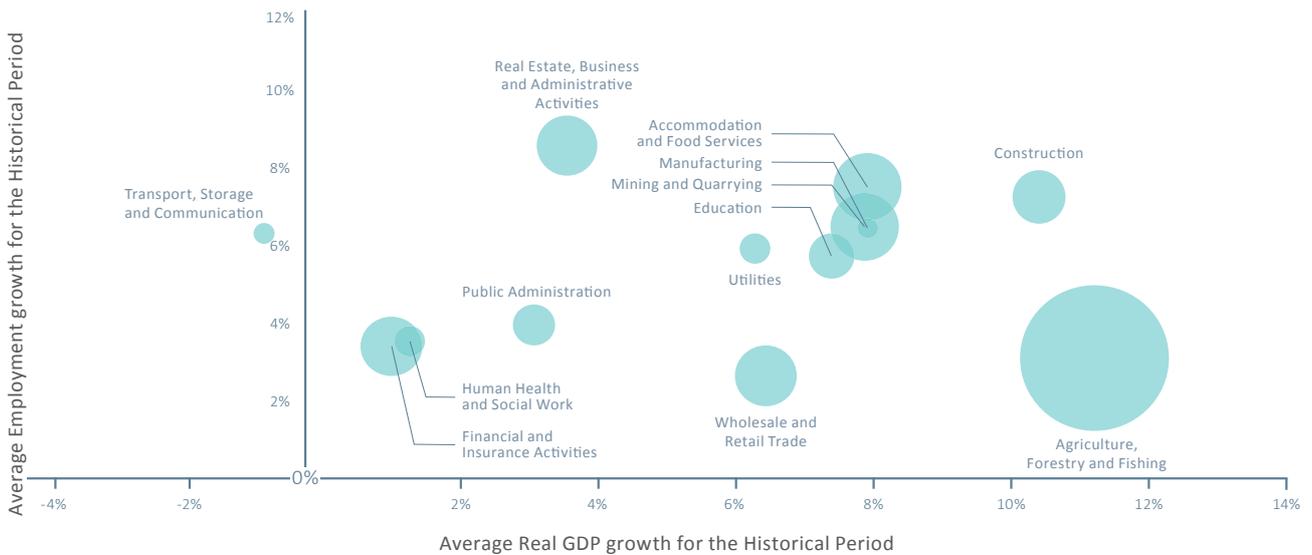
⁴(The International Labour Organisation; The African Union; AUDA-NEPAD, 2020)

6 Sub-sectors deep dive

6.1 Sub-Sector Choice

In order to choose which sub-sectors to focus on, it is first important to place each sub-sector into a matrix which summarizes their position within the Kenyan economy. As such, we employ a similar sort of analysis as found in FG Consulting (2019), by using an employment-output growth matrix for both the historical and the forecasted period. The size of the bubble relates directly to the contribution of that sub-sector to real GDP⁵.

Figure 3: GDP and Employment Growth Matrix for all Sub-Sectors in Kenya (Averaged from 2008-2019)



⁵As the bubble gets larger, so too does a sector's contribution to national real GDP within that time period on average.

Figure 4: GDP and Employment Growth Matrix for all Sub-Sectors in Kenya (Averaged from 2020-2024)



Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

More than anything these graphics only summarize the analysis done before, and feed into the methodology to obtain priority sectors based on those sectors real GDP trends, employment trends, sizes, gender equity, and the impact of COVID-19 on those sectors (as outlined briefly in the methodology).

As can be seen, most sub-sectors are expected to shrink/weaken both in terms of employment and real GDP:

- Because the historical period has shown great prosperity for Kenya, this has provided some buffers at a sector level for some sub-sectors when taking into consideration the economic impact of COVID-19.

- Historical growth buffers have provided various sectors (those sub-sectors in the top right portion of the matrix, most interestingly the accommodation and food services activity sub-sector) with the potential to recover from the recessionary pressure attributed to COVID-19⁶.

⁶Note that, because this analysis is simply a forecast from 2008-2018 data, it is possible that the current forecasts for some sectors might be overstated. However, historically strong sectors with large economic buffers might prove more resilient post-2020.

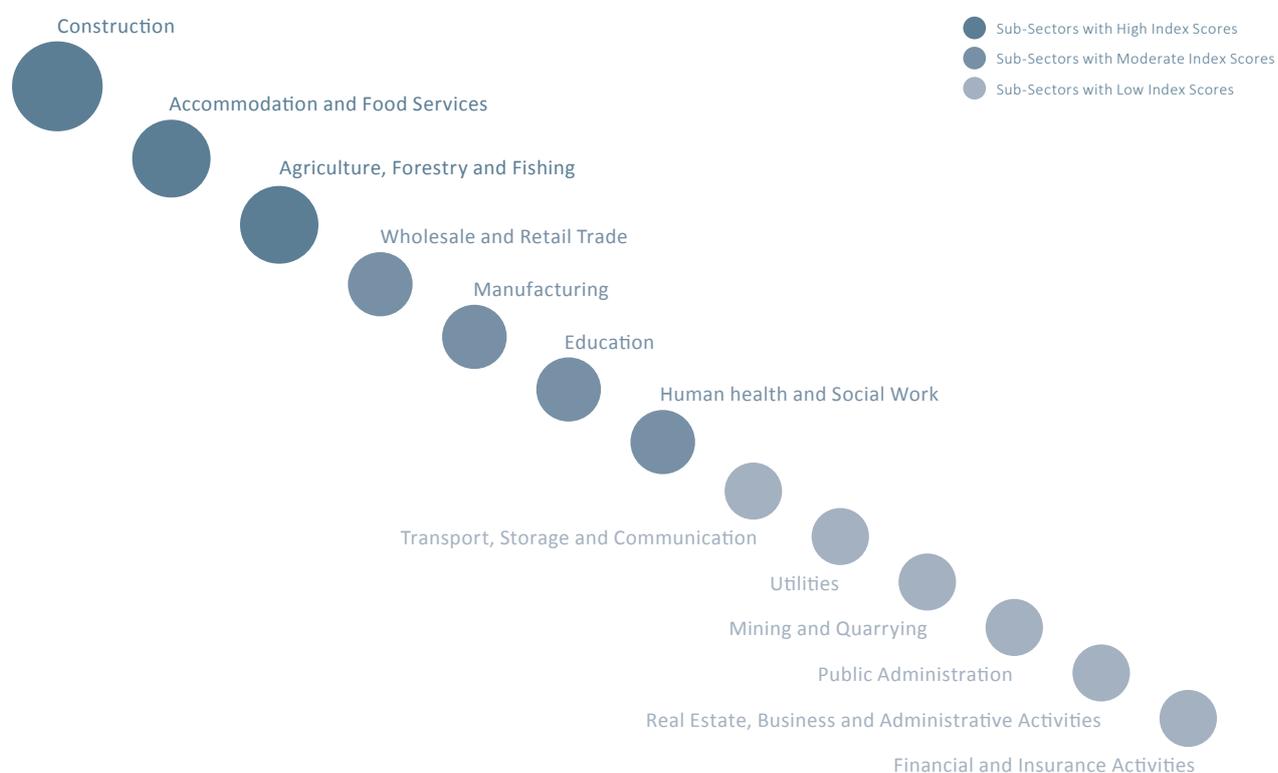
6.2 Sub-Sector Ranking

Given all previous evidence, we use Principal Components Analysis (PCA⁷) to rank the sub-sectors. Weighting is based off of the following indicators:

- Historical employment and GDP growth,
- Forecasted employment and GDP growth taking into account the potential impact of COVID-19,
- Employment elasticity of output,
- A sub-sector's prevalence in the literature surrounding government priority,
- A sub-sector's susceptibility to COVID-19 as found in the literature,
- The persistence of an economic shock of the COVID-19 type at a sub-sector level (i.e., how long it takes for a sector to at least slightly recover from an economic shock), and
- Whether the sub-sector is gender-equitable by means of either:
 - An increasing trend of female employment between the historical and forecasted periods, or
 - Employing a female-majority workforce.

This ranking, inclusive of the expected impact of COVID, is summarized on the overleaf⁸:

Figure 5: Labour Demand Index Rankings



Source: Own analysis of data from FG Consulting (2019) and The ILO (2020)

⁷PCA is a weighting technique which attributes weight based on total variation of a particular indicator across time and across dimensions. It attempts to decompose each indicator, relative to all the others, into its core components. This method corrects for things like the relationships between the indicators which are meant to be weighted (for instance, output and employment are related).

⁸The size of each bubble is directly related to the index score for each sub-sector. Those sub-sectors that are highlighted in the lightest shade of blue fall below the average index score, while those in darker shades of blue fall above the average index score.

Considering all of the evidence, the following sub-sectors are prioritized to be focused on:

1. The Construction sub-sector,
2. The Accommodation sub-sector, and
3. The Agriculture, Forestry and Fishing sub-sector.

These are the sub-sectors which, across dimensions, tend to perform robustly across the various dimensions, and are susceptible to an economic shock due to COVID-19. That is not to say that each sub-sector is best performing across all dimensions (i.e., real GDP growth in the agriculture sector is not forecast to be the highest). Instead, it is these sub-sectors that simultaneously have:

- Relatively strong economic prospects,
- Relatively Gender-equitable employment prospects,
- A place in the literature as a strategic priority, and
- A relative susceptibility to COVID-19 and its prospective economic impact.

Based on the 2030 vision for Kenya, there is clear focus on the agriculture and tourism industries as a means to meet the goal of strong and persistent economic growth in the country. Our own methodology shows significant overlap between the three priority sectors shown above and this 2030 vision. In terms of the construction sector, though, it is likely from the literature analysis that the economic impact of the coming recession in 2020 will be non-negligible. It is, however, the sector which is expected to grow in terms of real GDP post-2021 and recover from the COVID-19 shock relatively quickly as well. This implies that an intervention in this sector might be able to absorb the semi-skilled labourers left unemployed due to COVID-19 in 2020, providing a possible avenue for employment recovery in Kenya in 2021 and thereafter.

7 Labour Demand And Labour Supply Conclusions

Kenya is considered as one of Africa's largest economies, and with sufficient focus, can remain one of Africa's key players in the coming years. This sufficient focus should be placed on, among other things, the closing of skills gaps which have formed as a consequence of the development of the country.

In relation to "focus", three sub-sectors in the economy have been seen as potentially exhibiting high levels of labour demand in the coming 4-5 years. These sectors are:

1. The Construction sub-sector,
2. The Accommodation sub-sector, and
3. The Agriculture, Forestry and Fishing sub-sector.

From the perspective of construction (which is expected to shed as many as 28 000 jobs in 2020), roughly 95% of firms interviewed in the STEP employer survey suggested that there was difficulty in filling positions. This was attributed to a lack of practical knowledge at all ends of the skills spectrum. This sets out the potential for direct TVET interventions:

- On the lower end of the skills spectrum, it was made clear during the validation process that sub-contracting low skilled individuals is an issue in the Kenyan construction industry. Because there are very few highly-skilled artisans in the country, interventions could be aimed at improving brick-laying, tiling, grouting, woodwork, and concrete work skills, as well as skills related to the operation of earth-moving equipment. This could be done through the implementation of short courses to reskill those low-skilled subcontractors.
- At the upper end of the skills spectrum, more technical aspects of the construction sector require bolstering. Specifically, TVET interventions aimed at draughting, technical drawing, or industrial engineering would prove useful in bridging skills gaps at this upper end.

Importantly, these TVET interventions need to be more practically focused, as opposed to being theoretical activities (as is often the case throughout Africa).

In terms of accommodation and food services, it is clear that the tourism sub-sector in Kenya has been and will continue to be impacted by the COVID-19 pandemic. This gives rise to the general need of equipping individuals in the tourism space with the tools to see themselves and their businesses through the pandemic. This would be best accomplished by offering rapid courses on COVID-proofing their business operations. However, the STEP survey also noted that soft skills in the tourism industry also seemed lacking. It is for this reason that TVET interventions aimed at hotel management, as well as culinary schooling, might assist those without jobs due to COVID in finding work post-pandemic.

Work done by the ILO has also pointed out that workers in the general accommodation and food services industry would require ICT-related upskilling. From a food services standpoint, the delivery of food products is critical-synergies and training in e-commerce and logistics can ensure that businesses are able to adequately map out safe delivery routes and deliver goods, maybe through the development of a simplistic food delivery app or a partnership with more well established food delivery applications like Uber Eats or Mr Delivery. For those firms operating in the accommodation space, ICT knowledge in relation to communication and marketing of travel and accommodation options are key for the success of the industry post-COVID as well. This will lay the groundwork for a new world of tourism post-COVID, starting on a relatively small scale.

Finally, in relation to the agriculture sector, two things are apparent from the STEP survey:

1. Low-skilled agricultural work does not experience major skills gaps in Kenya.
2. At the upper end of the skills spectrum, there is a dire need to improve the candidates in the agriculture space.

The "upper end" of the agriculture skills tree relates to:

- Improving crop/livestock efficiency,
- Creating climate-friendly approaches to agri-processes,
- Creating the platform for "blue economic activity" (i.e., courses in aquaculture),
- Agribusiness and entrepreneurial development, and
- The introduction of e-agriculture (i.e., using information technology in agricultural practices).

These skills gaps can be plugged by focusing on interventions aimed at churning out crop, livestock, or fish-stock scientists and technicians.

It should be noted here that the impact of COVID-19 on employment in the agri-sector is expected to be massive, with as many as 980 000 jobs being shed from this majority-employer. These job cuts will affect the low, medium, and highly skilled individuals in the sector to varying degrees. It is, therefore, possible to assist those on the lower end of the skills base with reskilling if they find themselves unemployed as a result of COVID-19. This could be in the form of training on more climate-friendly means of agricultural practices, or on e-agriculture (which attracts more youthful candidates).

With these interventions, it is clear that some of the employment impacts of COVID-19 in Kenya could be mitigated in the medium-term. These interventions, above and beyond assisting in recovery post-COVID, might assist in closing skills gaps in the Kenyan labour market, whilst also planting some seeds for further development in the country for the foreseeable future.

Appendix 1 Validation Cliff Notes

The minutes of the validation workshop held with Kenyan stakeholders are found from here on

Minutes SIFA Macroeconomic and Labour Market Sector Analysis Study Validation Workshop Kenya

Date: 30 June 2020 | Presentation: Michele Capazario (DNA Economics) | Facilitation: Erick Sile (SIFA)

Participants in attendance:

1. Tom Olango
2. James Wamwangi (FC Consultant)
3. Naomi Lintini (ILO)
4. Unami Mpofu (AUDA-NEPAD)
5. Bernice McClean (AUDA-NEPAD)
6. Erick Sile (SIFA)
7. Sabine Klaus (SIFA)
8. Stephen Gichohi (SIFA)
9. Unami Mpofu (AUDA-NEPAD)
10. Michele Capazario (DNA Economics)

PURPOSE

Initially planned to take place in Kenya, this workshop was organized virtually because of the current pandemic which makes traveling across borders impossible. To finalize the draft reports shared with stakeholders, this workshop sought to gather the following information for the finalization of the report:

1. Validation of assumptions made by Researchers;
2. The report's meaning and usefulness in relation to the National Development Plan and what is seen in the field;
3. Likelihood of the priority sectors highlighted in the report to enhance employability in a post COVID-19 environment;
4. Skills needed at country level in the identified priority sectors.

PRESENTATION

The consultant presented the methodology used to rank the sub-sectors. The projection of GDP growth and employment growth relied on economic data over the last 10 years, up to 2018. This data, obtained mostly from the National Bureau of Statistics and other international organizations such as ILO and The World Bank, went through an initial validation process at country level.

The economic model utilised to rank the sub-sectors used a weighing system relying on the following indicators:

- Historical employment and GDP growth;
- Forecasted employment and GDP growth taking into account the potential impact of COVID-19;
- Employment elasticity of output;
- A sub-sector's prevalence in the literature with regard to government priorities;
- A sub-sector's susceptibility to COVID-19 as found in the literature,
- The persistence of an economic shock such as COVID-19 at a sub-sector level (i.e., how long it takes for a sector to at least slightly recover from an economic shock), and
- Whether the sub-sector is gender-equitable by means of either:
 - An increasing trend of female employment between the historical and forecasted periods, or
 - Employing a female-majority workforce.
- According to the forecasting model, the following three sub-sectors are likely to benefit most from interventions aimed at improving labour market prospects for those entering the labour market:
 1. Construction;
 2. Accommodation and Food Services;
 3. Agriculture, Forestry and Fishing.

Reactions/Observations/ Input after the presentation

Participants in the meeting were in agreement with sub-sector priorities outlined in this report, as they match the Government of Kenya's (GoK) priorities.

The sub-sector designation "Accommodation and Food Services" is preferred to "Tourism and Hospitality" as per the ILO classification. It was noted that "Tourism and Hospitality" is the main driver of this sub-sector given the importance of tourism in the Kenyan economy, pre-COVID-19. The large size of the tourism sector and the particular attention given by the GoK to tourism as a recovery strategy are probably some of the reasons why this sub-sector is likely to provide increased employment after the pandemic. Although "Accommodation and Food Services" is a priority sub-sector, the report does not state which specific skills will be needed to meet the expected rising demand for employees.

Construction is an important sub-sector as Kenya has embarked on a huge infrastructure development drive. It is no surprise that this sub-sector is the least impacted by the COVID-19 pandemic. From a supply side perspective, training institutions have not developed the right curriculum to meet the growing demand of skills in this sub-sector, mainly because contractors tend to hire unskilled laborers with the intention of offering employees training on the job. The sub-contracting culture in the construction sub-sector means those who are offered jobs are usually not necessarily the skilled workforce, but people who are connected to employers in the sector. Going forward, it would be important to determine which specific skills are needed in the construction sub-sector, and probably influence enforcement of government regulations requiring the hiring of skilled workers to minimize accidents on construction sites.

The blue economy has become prominent in Kenya and is an integral part of the "Agriculture, Forestry and Fishing" sub-sector, which is a key priority sub-sector likely to employ more Kenyans Post-COVID-19. Because of lack of disaggregated data, it is not possible to single out the importance of the blue economy in the "Agriculture, Forestry and Fishing" sub-sector. It is noted that most of the technical skills offered by TVET institutions are associated with farming. Value chain development and agribusiness are very appealing to the youth, but this was not highlighted in the report as a key area to focus on to attract more young people into agriculture.

The report highlights the fact that informal employment in Kenya is very high, at approximately 80%. Underemployment might be the reason for the high numbers observed in the informal sector. How to transfer skills in the informal sector remains unclear because most self-employed Kenyans consider themselves as being part of the informal sector. It is therefore crucial to define the informal sector and identify the criteria for consideration in this category. Although there is no framework on SMEs and the informal sector, there is currently an attempt to connect the informal sector and TVET in the health sector. Also, a guideline is being developed on how SMEs would engage with the informal sector. These efforts would be helpful in separating SMEs from informal sector actors. With increased innovation in the technology sector in Kenya, it is possible to envisage a scenario where technology is leveraged to upgrade skills development in the informal sector.

Way forward

It is important for all priority sectors highlighted in the report to gather more information necessary to determine the exact required skills. This could be done only by bringing the enterprises and the TVETs together to discuss how labour needs could be fulfilled by training offered in TVET Schools.

The GIZ Project E4D is currently looking at Construction and Blue Economy sub-sectors where a deep dive is necessary in order to meet the skills gap needs.

In its upcoming rapid assessment in Kenya, the ILO report will be more specific on skills gaps and how they could be addressed in the priority sub-sectors highlighted by this report. This information from the rapid assessment will be used to finalize the report.

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