

MAURICE STRATÉGIE

THE MAURITIAN LABOUR MARKET

TIGHTNESS AND SHORTAGES

Demographics and Labour Market



DISCLAIMER

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EXECUTIVE SUMMARY

Latest figures show that the total labour force in Mauritius was 562,800 in 2021, comprising of 532,800 Mauritians and 30,000 foreign nationals. For the third quarter of 2022, unemployment rate is estimated at 42,800 (7.5%), a high percentage of which comes from the 16-24 years age group.

Despite the unemployment rate, companies are increasingly decrying an acute labour shortage in Mauritius. However, in the absence of analysis, policymaking in regard to tackling labour shortage becomes difficult. This paper therefore attempts at providing some insights of the current situation of the post-covid market and highlights the importance of addressing labour challenges for the short- and long-term benefit of the economy.

Specifically, labour shortages are assessed in the manufacturing, healthcare, construction, ICT, and tourism sectors, and the opportunity cost of the shortage is estimated.



To conduct this study, data was gathered by means of a survey questionnaire sent out to various companies and stakeholders of the manufacturing, healthcare, construction, ICT, and the tourism sectors to estimate the current labour shortages by qualification levels amongst others.

The abovementioned sectors employ 35.8 percent of the total labour force (184,200) and 43.4 percent of the labour force employed by the private sector. The companies surveyed constitute a workforce of 44,481 people, which represents 24.2 percent of the total workforce in these five sectors. The main findings of the survey are as follows:

there is immediate job availability for 7,925 employees in companies of the mentioned sectors with the tourism sector ready to employ 4,174 workers immediately, while manufacturing, construction, ICT/BPO and healthcare have immediate vacancies for 1,478, 1,116, 1,020 and 137 posts respectively.

In the manufacturing sector, especially in the textile sector, most vacancies require only primary (36.6%) and secondary (58.1%) education including machine operators, process operators, quality controllers, packers, amongst others.

In the healthcare sector, the demand is higher towards diploma holders (98.5%) which include nurses, laboratory technicians and healthcare assistants. In the construction sector, there is massive demand for masons, machine operators, cabinet makers, and other manual workers amongst others which require mostly primary education (80.2%).

In the ICT/BPO sector, ICT companies are mostly recruiting software engineers, data analysts, cybersecurity specialists, web developers amongst others who are expected to have an undergraduate degree (36.7%). There is also a significant demand for HSC holders (47.8%) in the BPO sector for customer agents, sales support, admin support and customer support agents.

The tourism and hospitality sector require either an HSC (23.2%) or a diploma (37.2%) for room attendants, waiters, guest relations, F&B amongst others.

The immediate jobs availability for 7,925 employees would imply an increase of 17.8 percent on their current labour force. If extended to the whole population (of these 5 sectors), this would represent an additional 32,787 workers.



Only 6.0 percent of the total shortage relate to jobs requiring a degree or a professional qualification. When compared to official figures of the unemployed with regards to the level of education, it is found that 20.9 percent of the unemployed have tertiary level of education.

On the other hand, the unemployed holding primary and secondary levels of educational attainment are much more in line with the requirements of the industries. Despite that, the companies are finding it difficult to recruit.

For the recruitment of local labour, at managerial level, 56.6 percent do not find it difficult to recruit. On the other hand, 80.0 percent of those surveyed found it difficult or very difficult to recruit labour at technical level and 83.3 percent for manual labour.

The main reasons cited were lack of available skills or even interest for the jobs advertised, which leads to the firms having recourse to foreign labour. This is especially prevalent in the construction industry.

For the recruitment of foreign labour, 43.4 percent find it either difficult or very difficult to recruit foreign labour at managerial level. For labour with technical skills, 60.0 percent find it to be either difficult or very difficult. For manual labour, this figure increases to 66.7 percent.



Operators have explained that it is reasonably easy to get labour willingly from abroad. However, the main difficulty lies in the cumbersome and lengthy administrative process for recruitment of foreign labour.

With regards to the impact of the shortage of labour on the economy, the gap in the five surveyed sectors will account for up to 2.6 percent of total GDP.

The effect on the tourism sector is the highest at 19.6 percent in terms of potential GDP loss. The manufacturing sector is less affected (3.2 percent) given the relatively small proportion of labour shortage and the intrinsic capital-intensive nature of the production process.

Extrapolating the proportion of labour shortage to the other non-surveyed sectors of the economy as an approximation, we estimated that the economy-wide labour shortage in the economy could lead to a potential loss in GDP of up to 5.3 percent.

INTRODUCTION



In this period of intense global competition, where technological development is accelerating and demographic transition is unfolding, the issues of labour shortages and skills mismatch have risen to the top of the policy discussion in Mauritius, especially as human resources remain our most valuable resource.

The labour market issues being faced by enterprises include shortfalls of skills caused by a lack of education, experience, and knowledge, as well as by skills that go beyond what is needed for a job. While there may be a shortage of talents in some industries, there may be an excess of overqualified workers in others.

There are other issues as well such as declining fertility rate and new types of labour entering the market with different expectations. If the skills mismatch is not addressed, it increases the real costs to people, businesses, and societies. Therefore, it is essential to be aware of the constantly evolving skill requirements to match industry demands.

The issue of skills mismatch is further exacerbated by the impact of Covid-19. Governments and employers have taken all necessary measures to tackle the crisis and to preserve jobs.

Though these pressing measures helped in mitigating the crisis, almost all countries faced a severe deterioration in employment and national income.

The post Covid-19 recovery brought millions of workers back into the labour force. However, changing work conditions and new issues have led to a new way of working, which in turn poses several challenges to employers and economies.

According to OECD (2021), many countries have been facing labour shortages since the early stages of the recovery, in a context of broader supply bottlenecks that have been challenging the capacity of firms to meet demand needs on a global scale.

Mauritius has not been spared, with operators from several sectors of economic activity facing severe labour shortages.

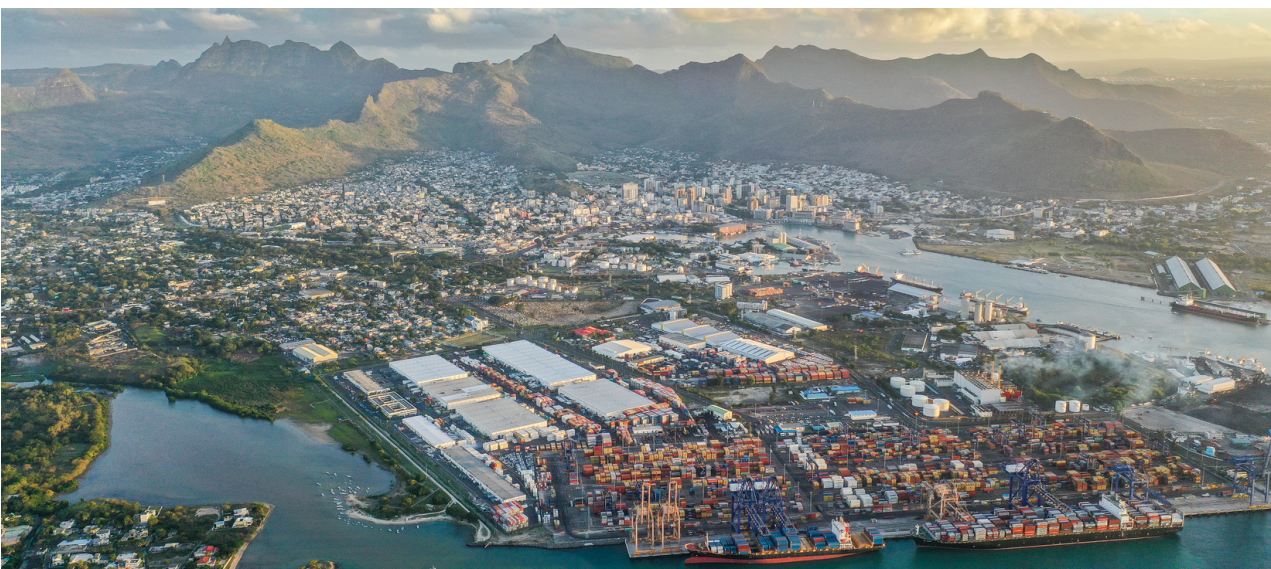
The issue is two-fold in Mauritius. There are existing sectors which are facing shortages, and there are other sectors whose emergence are being constrained by the lack of adequate skills. If the excess capacity issue noted in the different sectors is addressed, it is expected that the contribution of the different sectors to growth could be much higher.

This paper therefore tries to offer an overview of the current situation of the post Covid labour market and highlights the importance of addressing labour challenges for the short- and long-term benefit of the economy. Specifically, this paper has for objectives to:

- Provide a comprehensive assessment of the current labour market
- Estimate the labour shortage prevailing in key sectors of activity
- Estimate the potential economic impact of addressing labour shortages

The findings of the study will aim at providing policy makers with a complete picture of the current labour market and provide the basis for informed decision making with regards to employment policies.

In terms of structure, Section 2 provides an overview of the post Covid global employment trends, followed by an analysis of the Mauritian labour market. Section 3 provides an overview of labour productivity in Mauritius, which is one area that needs more consideration. Section 4 provides an overview of the methodology which is used to gauge the impact of employing more labour on GDP as well as providing an estimate of the relationship and summarises the main findings of a rapid labour shortage survey conducted by Maurice Stratégie with economic operators in ICT/BPO, tourism and hospitality, construction, manufacturing and healthcare. Finally, Section 5 summarises the findings and identifies priority areas for action.



POST COVID EMPLOYMENT TRENDS

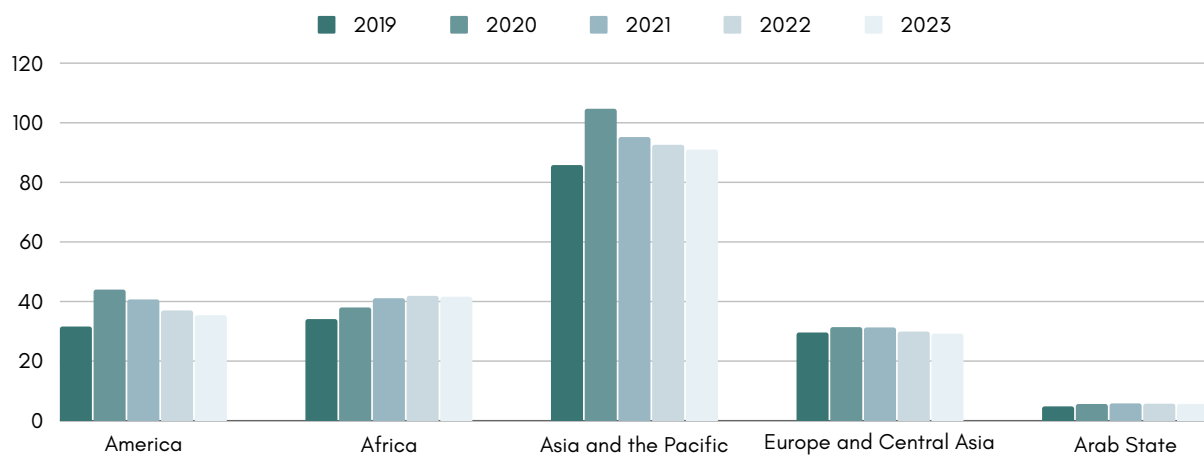
For economies, enterprises and workers, the Covid-19 pandemic has been unprecedented, both in terms of the disruptions it has brought and the ways that it has reshaped and accelerated long-term changes in the workplace. For example, lockdowns forced enterprises to close, making some question whether they could afford to pay their bills or pay and retain their employees.

GLOBAL TRENDS AND CHALLENGES

Global unemployment is expected to remain above pre-Covid-19 levels until at least 2023. The 2022 level is estimated at 207 million, compared to 186 million in 2019 (ILO Report, 2022). Unemployment in America stood at 31.6 million in 2019 and worsened to 44 million in 2020. It however improved to 40.7 million in 2021 and is expected to reach 35.4 million in 2023. Similarly in Africa, unemployment was 34.1 million in 2019 and reached 41.9 million in 2022. ILO estimates unemployment to reach 41.6 million in 2023.

The figure below depicts unemployment across several regions in the world for the period 2019 and 2023 (estimated).

Figure 2.1: Unemployment (Million)



Source: ILO

The youth is particularly affected by the unemployment situation. Between 2019 and 2022, youngsters aged between 15 to 24 faced the highest percentage loss in employment. Many youngsters dropped out of the labour market or were unable to join the labour market due to the tremendous difficulties in finding and keeping a job at a time when employers experienced significant income losses because of business closures.

The global youth unemployment rate was estimated at 15.6 per cent in 2021, more than three times the adult rate. Globally, the labour market for young people is estimated at 1,215 million in 2021. Around 75 million (6.2 percent) young people (aged 15 to 24) were unemployed, 408 million (33.6 percent) were in employment while 732 million (60.2 percent) were out of the labour force. Young people who have lost their jobs, or failed to obtain one, are more vulnerable to scarring are, described as a phenomenon whereby their future labour market outcomes are worse than those of their peers, even if macroeconomic conditions improve again. These young may accept a job for which they are overqualified, which the risk of trapping them in low pay employment.

Global labour productivity, measured as Gross Domestic Product (GDP) per hour worked, stagnated in 2021, and is estimated to have maintained the same trend in 2022. In 2020, during the crisis, global GDP fell by 3.3 percent while total hours worked declined by 7.5 percent. In 2021, global GDP recovered by 5.8 percent along with total labour hours worked improving at the same rate.

Global productivity growth is estimated to stagnate in 2022 mainly due to the war in Ukraine. Russia and Ukraine are major commodities producers, and disruptions have caused global prices to soar, especially for oil and natural gas.

Countries with direct trade, tourism, and financial exposures have felt additional pressures. Economies reliant on oil imports saw wider fiscal and trade deficits and more inflationary pressures. Moreover, reduced business confidence and higher investor uncertainty weighted on asset prices, tightening financial conditions and spurring capital outflows from emerging markets.

The global labour force participation rate, having declined by 2 percentage points between 2019 and 2020, is predicted to partially rebound to around 59.3 percent in 2022, 1 percentage point (approx.) below the 2019 level.



OVERVIEW OF THE LABOUR MARKET IN MAURITIUS

The total labour force in Mauritius was 562,800 comprising of 532,800 Mauritians and 30,000 foreign nationals in 2021, 60.9 percent of which are males and 39.1 percent females.

Table 2.1: Total Labour Force

	MALE	FEMALE	TOTAL
Mauritian labour force (000's)	318.8	214.0	532.8
Foreign labour force (000's)	24.0	6.0	30.0
Total labour force (000's)	342.8	220.0	562.8

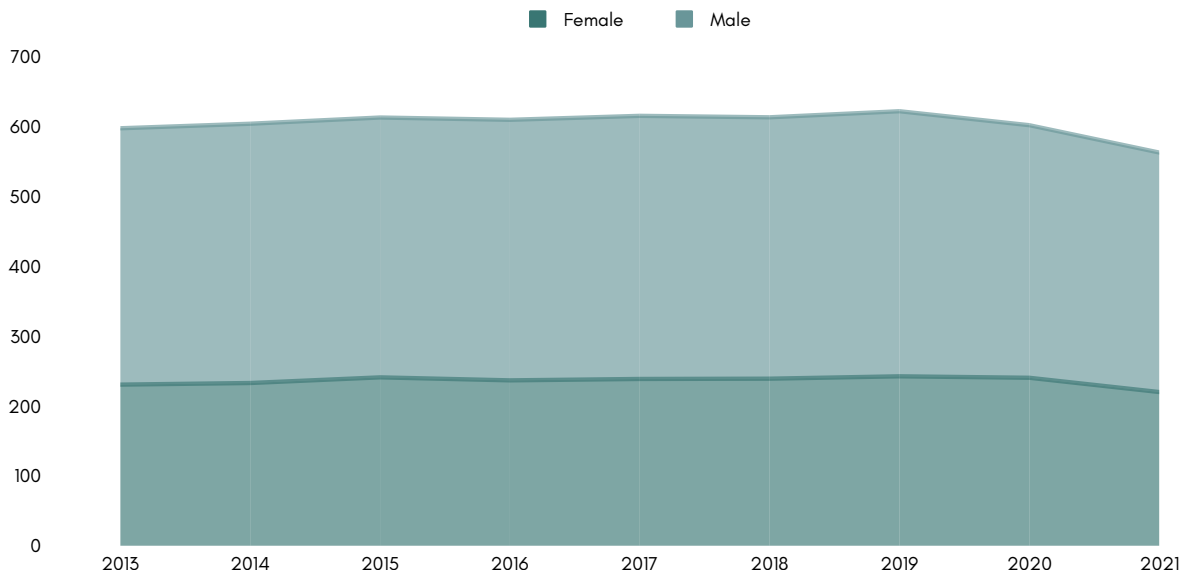
Source: Statistics Mauritius

The working age population (aged 16 years and over) stood at 1,008,400, of whom 532,800 consisted of the labour force (or economically active) resulting in an activity rate of 52.8 percent

The number of persons outside the labour force was significantly higher among women than among men at all ages, except for age group 16 - 19 years. This implies that there were fewer women than men among the employed. As from age group 20-24 years, the number of unemployed generally decreased with age.

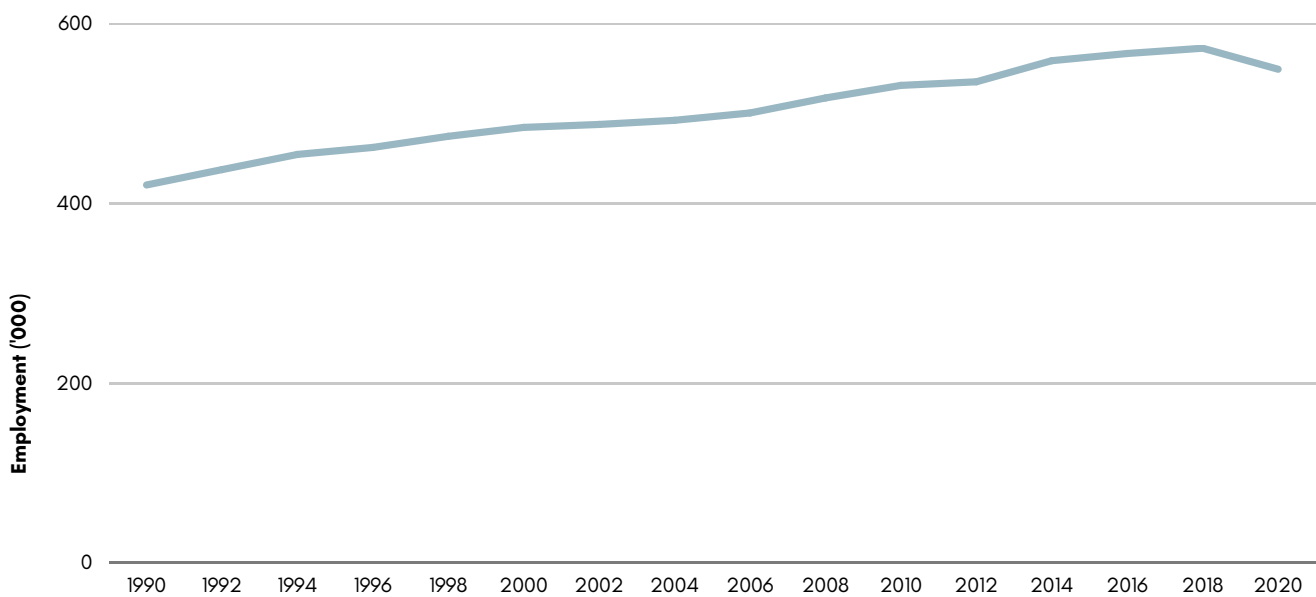
Over the years, the labour force has seen an upward trend, reaching its peak in 2019 standing at 621,900 and, after that, a downward trend to 601,900 in 2020 and 562,800 in 2021 as can be seen in Figure 2.2. This may be associated with the impact of Covid 19.

Gender wise, both male and female labour force kept increasing over the period. In 2013, the total male labour force (Mauritian and foreign workers) stood at 366,900 (61.4 percent) while in 2021, it was at 379,400 (60.9 percent). Female labour force kept on increasing throughout the years. However, a fall is noticed from 2020 to 2021.

Figure 2.2: Total Labour Force

Source: Statistics Mauritius

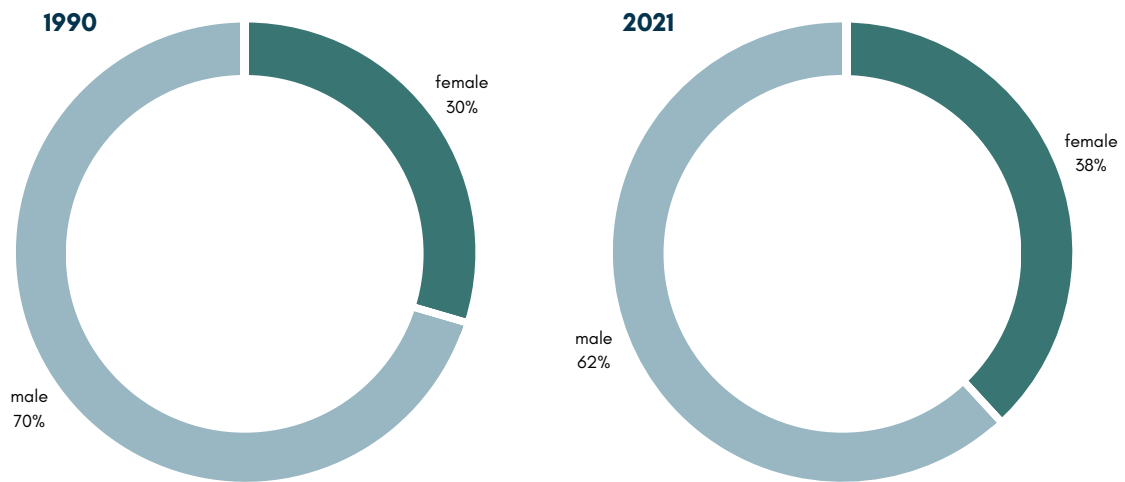
Similarly, as shown in Figure 2.3 below, total employment kept on increasing reaching its peak in 2019. A downfall is noted after 2019, which can be attributed to Covid 19.

Figure 2.3: Employment Trend

Source: Statistics Mauritius

In 1990, men accounted for 70 percent of the labour force while women accounted for 30 percent. In 2021, women comprised of 38 percent while men comprised of 62 percent.

Figures 2.4a and 2.4b: Employment trend by gender, 1990 & 2021



Source: Statistics Mauritius

Figure 2.5 shows the age distributions of the employed population for the year 2021. The predominant age group for those employed is 50+ years consisting of 134,700 employees. The highest number of males employed is in the 50+ years age group whereas for the females, it is in the 30-39 years age group.

Figure 2.5: Age distribution by Employment

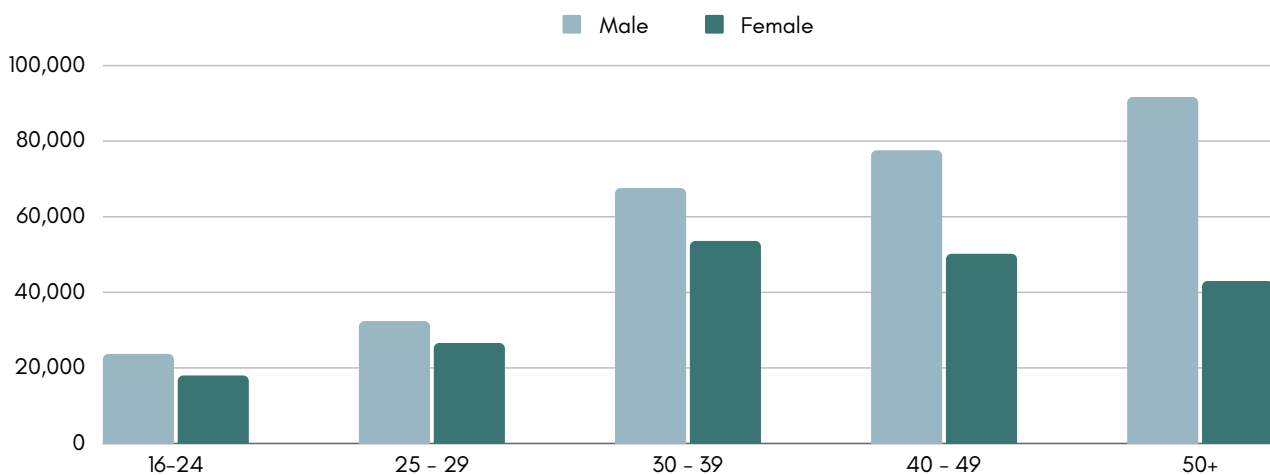
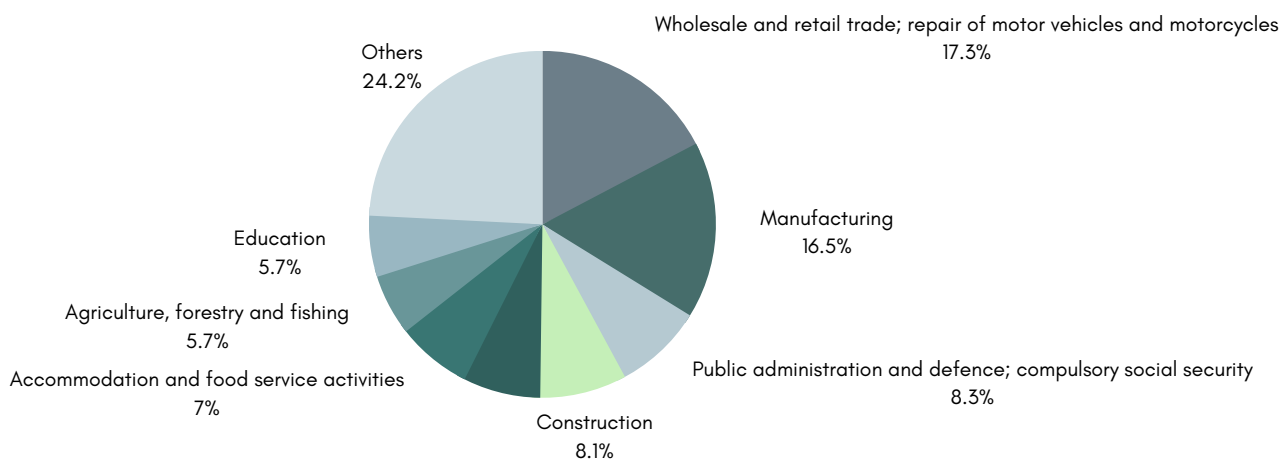


Figure 2.6 below shows the distribution of the employed population by industry in Mauritius for the year 2021. The industries employing the largest numbers of people are manufacturing (18.8 percent), wholesale and retail trade (17.3 percent) and public administration and defence (8.3 percent).

Figure 2.6: Employment by Industry



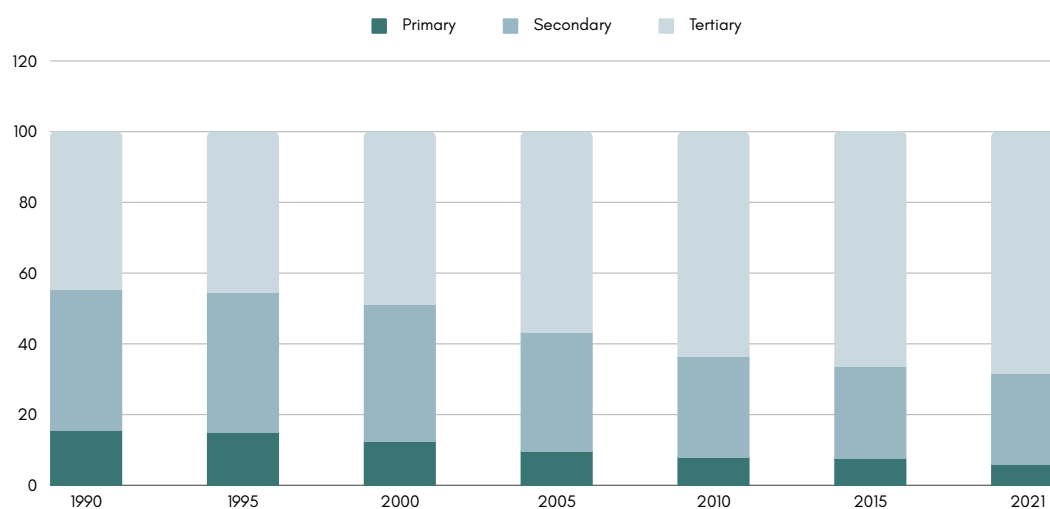
Source: Statistics Mauritius

From Figure 2.7, it can be noted that employment in the primary and secondary sectors has been decreasing, while employment in the tertiary or services sector has seen an upward trend.

The downward trend in the primary sector may be explained by the phasing out of the Sugar Protocol and the European Union (EU) reforms in the sugar sector in 2006 when the price of sugar dropped by 36 percent and led to the closure of factories. In 2005, the primary sector accounted for 9.6 percent of employment while in 2021, it accounted for only 6 percent, representing around 30,800 workers.

11. The decline in the secondary sector can be explained by the dismantling of the Multi Fibre Agreement (MFA) in 2004, which allowed Mauritius to benefit from preferential access to EU markets for manufactured products, in particular textiles. The Export Processing Zone at some point represented 25 percent of GDP and over 36 percent of employment.

The tertiary sector has seen to be employing more workers from around 187,500 workers in 1990 to around 351,300 in 2021. The financial sector, which was incepted through the Mauritius Offshore Business Act 1994, the tourism sector and the ICT/BPO segment form part of the vanguard of this transition.

Figure 2.7: Total Employment Share by Sector (%)

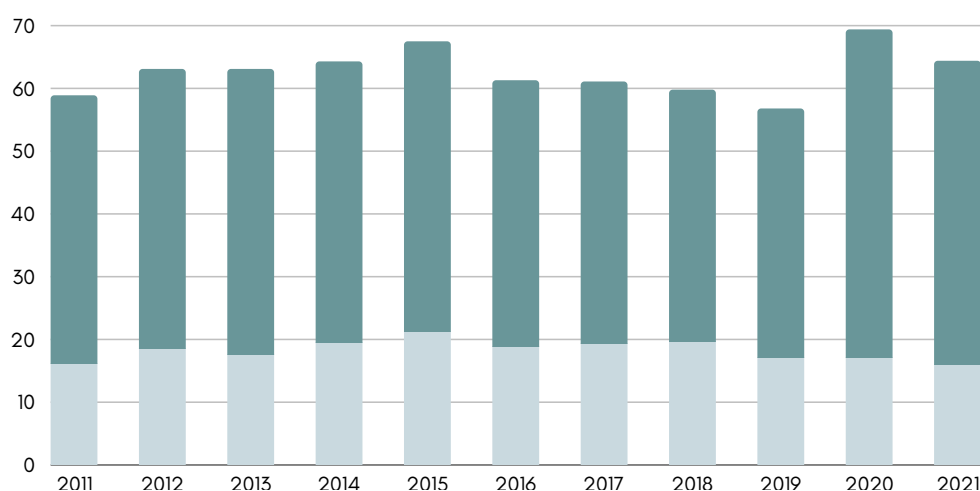
Source: Statistics Mauritius

Unemployment

Since 2011, the unemployment rate was on an upward trend until 2016 where it started to decline until 2019. However, the number of unemployed workers substantially increased to 52,200 in 2020 due to COVID-19.

In 2021 the number of unemployed workers is estimated at 48,400. A high percentage of unemployment concerns the 16–24 years age group.

However, for the third quarter of 2022, unemployment rate has declined and is estimated at 42,800 (7.5 percent) comprising of 20,200 males (47 percent) and 22,600 females (53 percent).

Figure 2.8: Unemployment Trend

Source: Statistics Mauritius

Table 2.2 shows the profile of the unemployed for Mauritius and their levels of educational attainment.

Table 2.2: Unemployed Population by Education attainment

Education	Male	Female	Both Sexes
Primary	6,300	4,300	10,600
Below PSAC/CPE	4,800	3,200	8,000
Passed PSAC/CPE	1,500	1,100	2,600
Secondary	14,400	13,300	27,700
Form I - V but not passed SC	9,500	6,700	16,200
Passed SC	3,100	3,900	7,000
Passed HSC	1,800	2,700	4,500
Tertiary	5,100	5,000	10,100
Total	25,800	22,600	48,400

Source: Statistics Mauritius

Around 55 percent of the unemployed, representing 26,800 persons, do not hold a Cambridge School Certificate (SC), 17 percent have not attained the Primary School Achievement Certificate (PSAC)/Certificate of Primary Education (CPE) level, 5 percent have the PSAC/CPE certificate, and 34 percent attended secondary school but did not pass the SC. The proportion having a School Certificate is at 14 percent and Higher School Certificate (HSC) at 9 percent. Unemployed individuals having studied up to the tertiary level numbered some 10,100 and represent some 21 percent of the total unemployed.

Foreign Labour

Foreign workers play an important role in the shaping of the economy of Mauritius. Due to shortage of labour in many sectors, and the issue of mismatch of skills, local enterprises are compelled to have recourse to foreign labour.

The number of foreign workers has been increasing over the past few years as depicted in Table 2.3 below. However, Mauritius has experienced a slight decline in foreign labour inflows in response to the Covid-19 pandemic.

In 2021, the foreign labour force was estimated at around 5.3 percent of the total labour force. The foreign labour force has been higher for males than for females in the recent years.



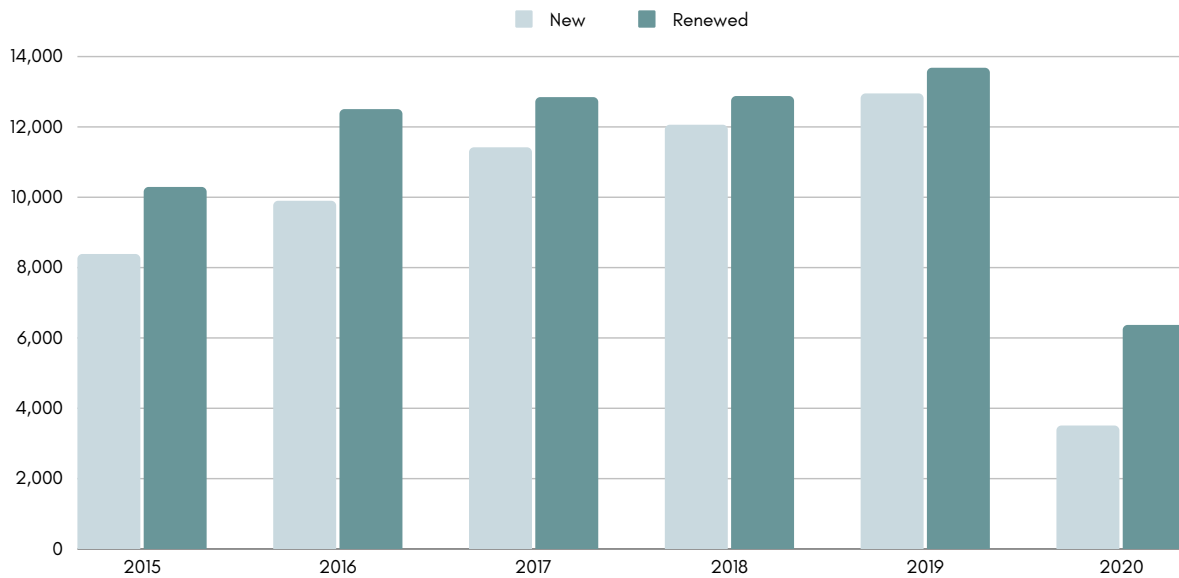
Table 2.3: Foreign Labour Force ('000)

	2015	2016	2017	2018	2019	2020	2021
Male	18.6	19.3	20	21.3	24.7	24.9	24
Female	9.7	9.3	8.4	8.1	6.2	6.9	6
Both sexes	28.3	28.6	28.4	29.4	30.9	31.8	30

Source: Statistics Mauritius

Foreign workers can take up employment in Mauritius under either a Work Permit or an Occupation Permit.

A work permit applies when the foreigner's salary in Mauritius is less than Rs 60,000 a month (with some exceptions for specific sectors which can apply for an occupation permit). Figure 2.9 shows the number of work permits issued in Mauritius from 2015 to 2020. Since 2015 the number of work permits issued was on an upward trend until 2020 where there has been a drastic fall in the number of work permits issued from 2019 (26,634) to 2020 (9,880). This is due to Covid-19 pandemic and closed borders.

Figure 2.9: Number of Work Permits

Source: Ministry of Labour, Human Resource Development and Training

On the other hand, an Occupation Permit consists of both a Residence Permit as well as a Work Permit to live and work in Mauritius for a maximum period of ten years. A professional should earn a monthly basic salary of at least MUR 60,000 to be eligible to apply for an Occupation Permit. As for professionals in the ICT Sector, Business Process Outsourcing sector, the pharmaceutical sector or the Food processing sector, the monthly basic salary should be at least MUR 30,000.

Figure 2.10: Number of Occupation Permits for professionals

Source: EDB Mauritius

The number of occupation permits issued for professionals decreased significantly in 2020. In 2021 however, it has increased slightly by 13.2 percent.

NEW OCCUPATIONS AND JOBS OF THE FUTURE

Technology has created new jobs as it transformed the economy. Since the first revolution onward, employment has shifted as technology is extending throughout the world.

Furthermore, the more a society is affluent, the greater is the demand for personal services and therefore creating jobs such as housekeepers and animal caretaker. Creative jobs such as fashion designers and musicians are another growth area.

Covid-19 has catalysed trends such as the remote work that could initiate growth in different occupations. For instance, a company may hire a work from home integration officer to ensure that new technologies and equipment are in place to make remote work a success.

In addition, organizations with renewed focus on health might appoint more office disinfectors workers. New occupations such as smart home designs which integrate Internet of Things in home design and algorithms checkers are emerging.

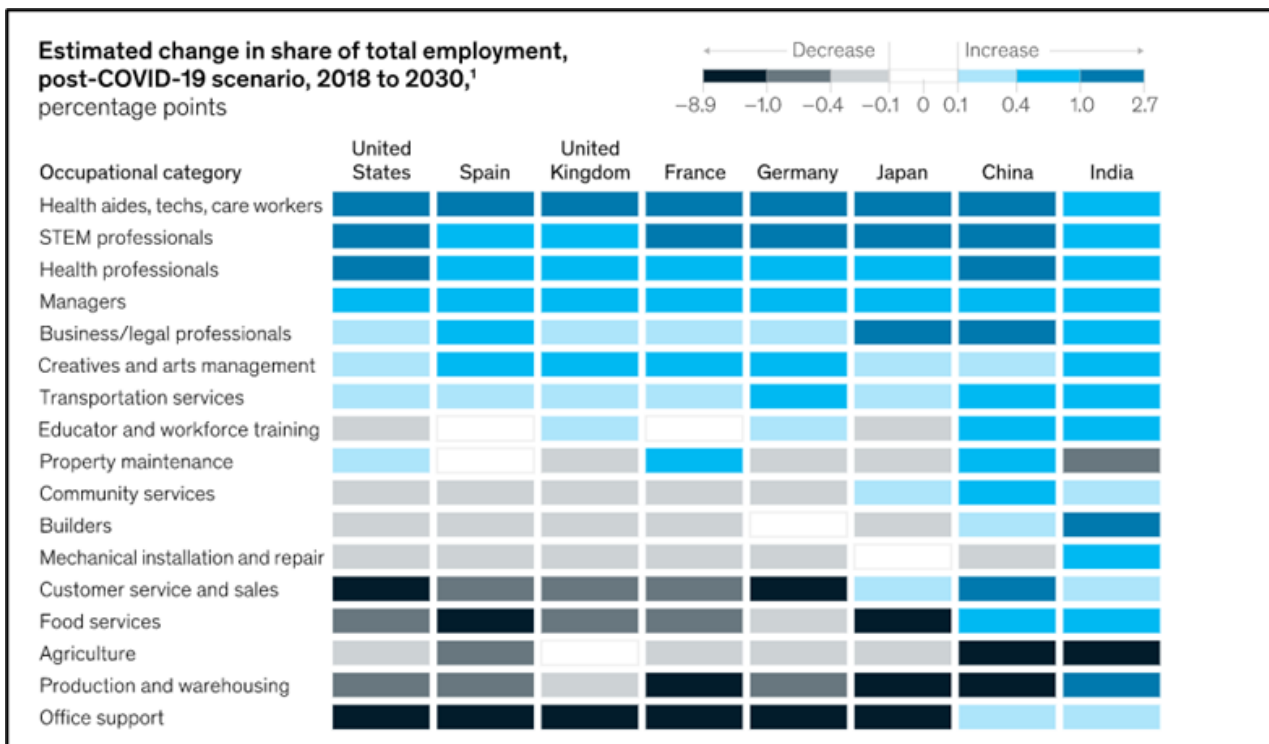
The demand for workers in "front-line" industries or those managing the Covid-19 pandemic was extremely high, as evidenced by either an increase in the number of jobs advertised or a lower decline in posts when compared to other industries.

Moreover, many companies have deployed automation and AI in warehouses, grocery stores, call centers, and manufacturing plants to reduce workplace density and cope with surges in demand. According to the research of McKinsey, the work arenas with high levels of human interaction are likely to see the greatest acceleration in adoption of automation and AI.

Figure 2.11 below shows this estimated Change in Share of total employment. The expansion of e-commerce and the delivery economy may lead to an increase in jobs in warehousing and transportation, but those increases are unlikely to offset the disruption of many low-wage jobs.

On the other side, demand for workers in the healthcare and STEM fields may grow more than it did before the pandemic reflecting rising attention to health as populations age and incomes rise and the need for people who can invent, deploy, and maintain new technology grows.

Figure 2.11: Estimated Change in Share of total employment



Source: McKinsey & Company

POST COVID CHALLENGES

Covid-19 may have triggered a wave of structural transformation, as some industries and firms shrink due to limited demand for their products or because they cannot fully operate during the pandemic, while others benefit from increased demand and their ability to telework.

This could result in misalignment between the sectors and firms in which vacancies abound and those where most job seekers, displaced from their previous positions, either are looking for new employment or are qualified to get jobs. In turn, such sectoral and occupational mismatches could constrain job creation and increase labour market tightness, all else equal, as workers often take longer to find employment in new sectors and firms.

.Increased sectoral mismatch significantly slowed employment recoveries during past economic downturns, including after the Global Financial Crisis, when it may have accounted for up to one-third of the rise in US unemployment (Şahin et al., 2014).

Work from Home

The COVID-19 outbreak has made work from home (WFH) the new way of working for numerous employees in Mauritius and around the world. Due to the pandemic, most organizations were substantially forced to adopt this way of working, often without providing employees with the necessary skills required for remote work.

WFH provides advantages including better work-life balance, reduced commuting time, more flexibility, lower turnover intention, improved productivity and lower occupational stress (Bloom et al, 2015; Tavares, 2017).

On the other hand, it encounters challenges, such as decreased work motivation, additional costs, distraction, and limited communication (Greer and Payne, 2014; Tavares, 2017). Although it may be a common working arrangement, mixed results are found with regards to its effects on productivity during the Covid-19.



According to a survey conducted among Japanese employees, worker productivity has decreased (Morikawa, 2020), while a similar survey done in the US revealed a slight decline in productivity (Afshar, 2020). By contrast, another study conducted among Indonesian employees stated that they perceived greater job satisfaction and motivation, which enhanced job performance during telework (Susilo, 2020).

Millennials and Gen-Z workforce

Gen Z has been the most economically affected by the recession caused by the pandemic. Nearly one-third of Gen Zs lost a job during the pandemic compared to 19 percent of Millennials. The reason why Gen Zs have suffered the highest job loss is that they are disproportionately in industries (retail/the service sectors) that have had the greatest number of layoffs and furloughs, and are more likely to be in entry-level jobs and serve as hourly workers.

60 percent of Gen Zs are working in Covid-impacted sectors that are most likely to be pausing trade or be temporarily closed compared to 32 percent of Millennials. All of this unemployment has impacted Gen Zs lifetime earnings, delaying their adulthood at a more rapid pace compared to Millennials after the last recession.

A report by the Federal Reserve Bank of New York concluded that individuals' first ten years in the labour market shape their lifetime earning potential. Since they are unemployed, they lack the ability to develop the on-the-job skills that would be an important investment for their future.

Further evidence proves this with 69 percent of Gen Z's expecting to delay some life milestones even though 87 percent crave financial independence (Schawbel, 2020).



Quiet quitting

Quiet quitting is becoming an increasingly common phenomenon across the world as employees are not actually quitting their jobs but rather doing the bare minimum at work and engaging solely within the confines of their defined job descriptions. The idea behind the quiet quitting movement is about workers preferring a better work-life balance and avoiding burnout. Gallup (2022) in fact estimated that 50 percent of the US workforce were quiet quitters.

The Great Resignation

The Great Resignation, coined by Anthony Klotz, Professor of management at University College London's School of Management in May 2021, is an ongoing trend which is seeing an increasing number of workers quitting their jobs in the wake of stagnating wages and rising costs of living. It is further fuelled by the perceived lack of opportunities for career advancement, hostile work environments, lack of benefits and job dissatisfaction.

According to Microsoft's Work Trend Index, more than 40 percent of the global workforce were considering quitting their job in 2021. Concretely, over 4 million workers quit their jobs since the post-pandemic recovery started in 2021 in the US.

Labour market tightness and shortages

Most labour markets are tighter than they were prior to Covid-19, particularly in countries such as Australia, Canada, United Kingdom, United States. Tightness can be seen in a sharp rise in vacancies and vacancies-to-unemployment ratios.



Vacancies have risen across all sectors, including those with more contact-intensive, less-teleworkable, and lower-skilled jobs that were hit hard by the pandemic. Tight labour markets partly reflect reduced labour force participation, which has shrunk the pool of available job seekers.

The main reason why employment remains subdued, particularly compared to precrisis trends, is that disadvantaged groups including, depending on countries, the low-skilled, older workers, or women with young children have yet to fully return to the labour market (IMF, 2022)

Several countries have been facing recruitment tensions in health and care-related jobs, aggravating shortages prevalent even before the pandemic. This may reflect that many of such “essential” jobs, for example nursing, are also often characterised by low pay, difficult working conditions and high risks, an issue exacerbated during the pandemic.



Labour shortages are also emerging beyond contact-intensive services, including most notably in manufacturing and especially in Australia, Canada and the United States. In the information and communication sector, labour shortages are particularly acute in EU countries such as France and Italy (OECD, 2022).

IMF (2022) and Pizzinelli and Shibata (2022) suggest that one of the reasons behind rising and widespread labour shortages is that many workers, especially women and seniors, withdrew from the labour market during the pandemic due to fears of contagion, health issues and school closures in a context of inadequate childcare facilities; and many have not yet come back to the labour market.

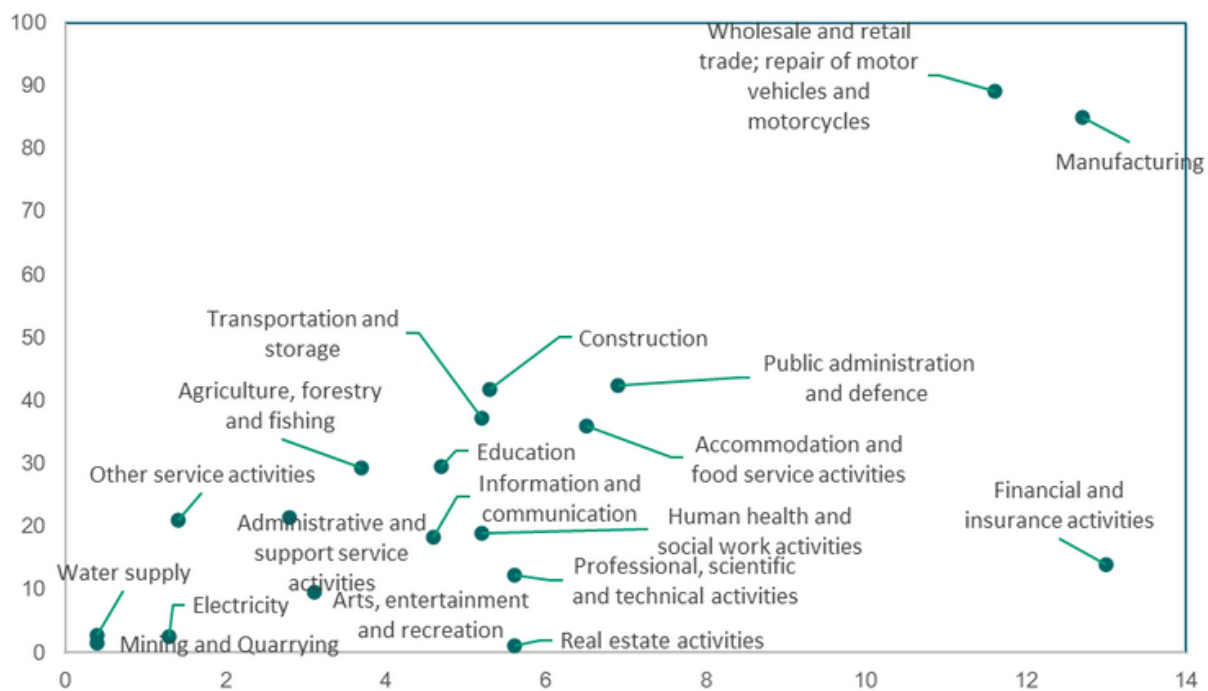
PRODUCTIVITY AND WAGES

The story of the Mauritian economy over the last several decades has been one of growth and productive structural transformation. However, Mauritian firms continue to trail their high-income competitors on important productivity measures in key sectors.

Further compounding the issues surrounding structural transformation, Mauritian firms have labour cost shares similar to other high-income economies while productivity more closely resembles that of upper-middle-income economies.

This may indicate that the road to increasing productivity levels will require bolstering worker skills and adopting technological improvements that complement the labour cost structure.

Figure 3.1: Employment versus contribution to GDP



The figure above shows that the manufacturing sector and the wholesale and retail trade sector have high contribution to Gross Value Added (GVA) and this can be due to higher employment rates compared to the other sectors.

On the other hand, it can be noted that while the financial and insurance activities sector has one of the highest contributions to GVA (13 percent), it has a lower rate of employment.

Figure 3.1 therefore provides an insight on the contribution per unit of labour to the economy. By far financial

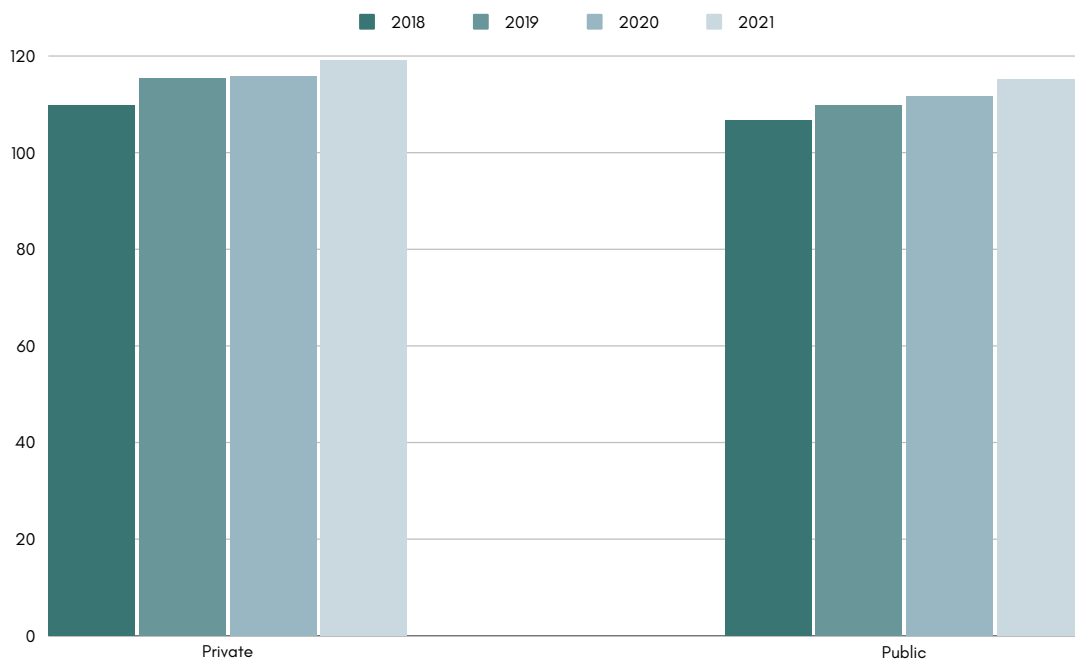
and insurance activities' contribution per unit of labour to GDP is the highest.

On the other hand, other sectors such as agriculture, education, ICT and tourism (accommodation and food service activities) provide relatively low contribution but employ a large number of workers. This has important implications for policy as it can provide some directions towards government objectives, including strategic orientations towards labour market policies.

WAGE RATE INDEX

Figure 3.2 shows the evolution of the wage rate index in the public and private sectors. The wage rate index has continuously increased over the last 4 years for both the public and private sectors. If we consider the private sector wage rate index, construction and information & communication have faced a continuous increase over the last 4 years in their wage rate index

Figure 3.2 Wage Rate Index



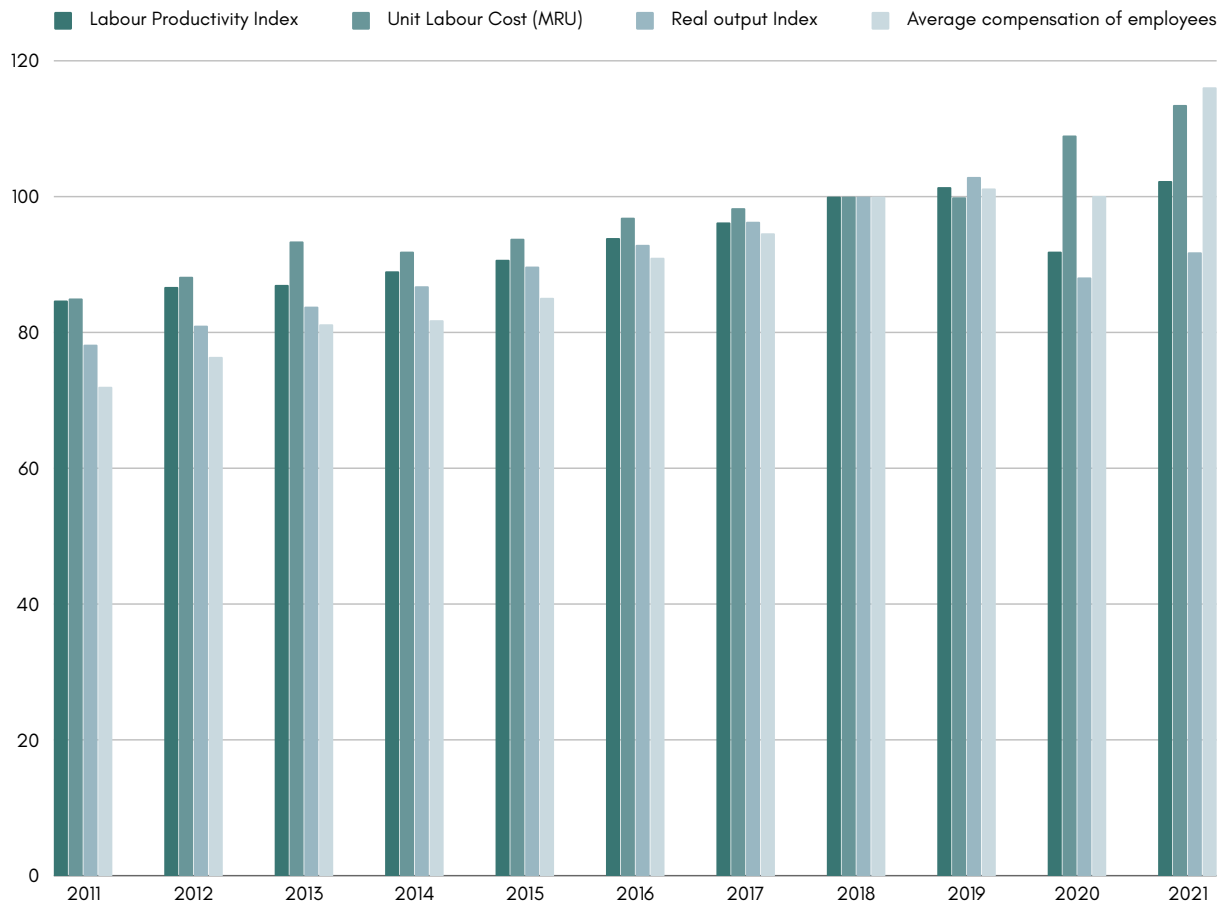
Source: Statistics Mauritius

The wage rate index for the agriculture and manufacturing sectors were almost the same. In 2021, the sector which had the highest wage rate index was manufacturing (123.2), followed by information and communication (117.0), the construction sector (115.4). Over the years, the wage rate index of the manufacturing sector remained the highest and that of agricultural sector remained the lowest.

LABOUR, CAPITAL AND MULTIFACTOR PRODUCTIVITY

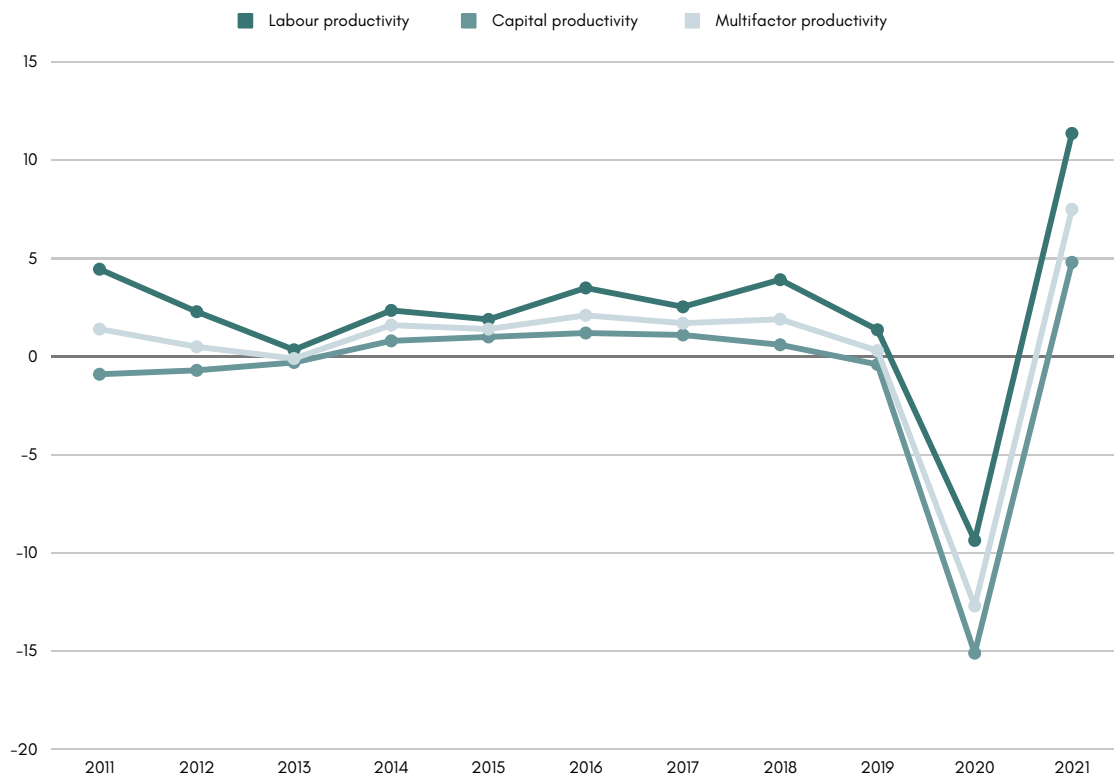
Labour productivity is a crucial factor in determining a country's Gross Domestic Product (GDP). It is often measured by the total volume of output (measured in terms of GDP) produced per unit of labour (measured in terms of the number of employed persons or hours worked) during a given time period.

Figure 3.3: Productivity, cost and output indices



Source: Statistics Mauritius

Figure 3.3. compares indices for average compensation to employees, unit labour cost, labour productivity and real output. Average compensation to employees increased faster than the other indices, including productivity and real output. The distance between the average compensation and unit labour cost with productivity and output has been increasingly significantly as well.

Figure 3.4: Productivity growth

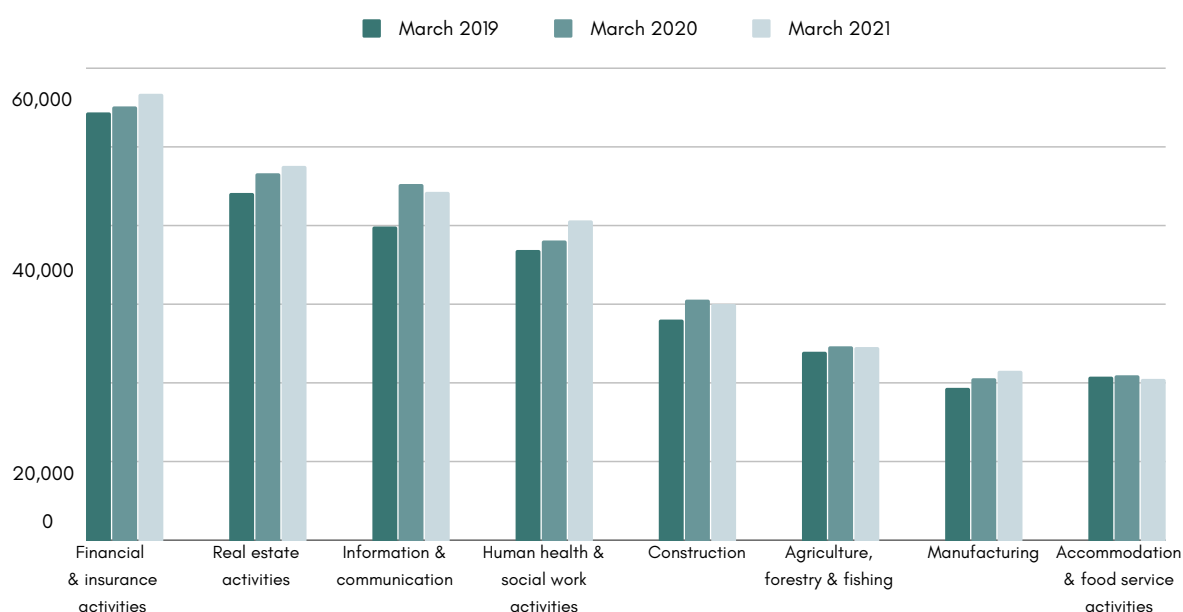
Source: Statistics Mauritius

Figure 3.4 compares indices for labour productivity, capital productivity and multifactor productivity. Labour productivity is defined as output per worker or per hour worked. The capital productivity index shows the rate of change in output per unit of capital. Multifactor productivity (MFP) is defined as output per unit of combined inputs. Combined inputs typically include labour and capital.

Labour productivity has remained higher than capital productivity in the last decade, and all the three indices, namely labour productivity, capital productivity and multifactor productivity, tend to converge in the same direction and at the same magnitude. Furthermore, it can be noted that all the three indices have faced a substantial drop in 2020 due to Covid-19 before a significant surge in 2021.

AVERAGE MONTHLY EARNINGS

Figure 3.5 shows that average monthly earnings have increased for all the sectors from March 2019 to March 2021.

Figure 3.5: Average Monthly Earnings

Source: Statistics Mauritius

Average monthly earnings have increased across all sectors excluding construction and accommodation and food service activities from March 2019 to March 2021. The financial and insurance activities sector has the highest average monthly earnings (Rs 56, 750) followed by real estate activities (Rs 47, 583) and ICT (Rs 44, 282). The manufacturing sector has the lowest average monthly earnings of Rs 21, 536.

However, it should be noted that these sectors contribute most to the Gross Value Added (GVA) of Mauritius. In construction activities however, average monthly earnings have fallen.

The year-on-year inflation worked out to 1.0 percent in March 2021, compared to 2.9 percent in March 2020. Headline inflation for the 12-months ending March 2021 worked out to 2.2 percent, compared to 1.2 percent for the 12-months ending March 2020.

The health sector faced a growth rate of 6.7 percent from March 2020 to 2021 followed by manufacturing sector (4.6 percent), financial and insurance (2.9 percent) and real estate (2 percent). These sectors may have faced a positive growth rate because there was a decline in the inflation rate. However, information and communication sector faced a decline of 2.2 percent.

With inflation estimated at 10.6 percent in 2022, a similar trend would see a sharp fall in real wages, which makes employment more unattractive.

SKILLS MISMATCH AND BEVERIDGE CURVE

The Beveridge Curve compares the unemployment rate to the vacancy rate and shows how it changes overtime. The Beveridge Curve is used to assess the current state of the labour market due to the economic cycle and is a measure of the efficiency of labour market matching as well. Movements along the curve will generally reflect cyclical changes in labour market conditions.

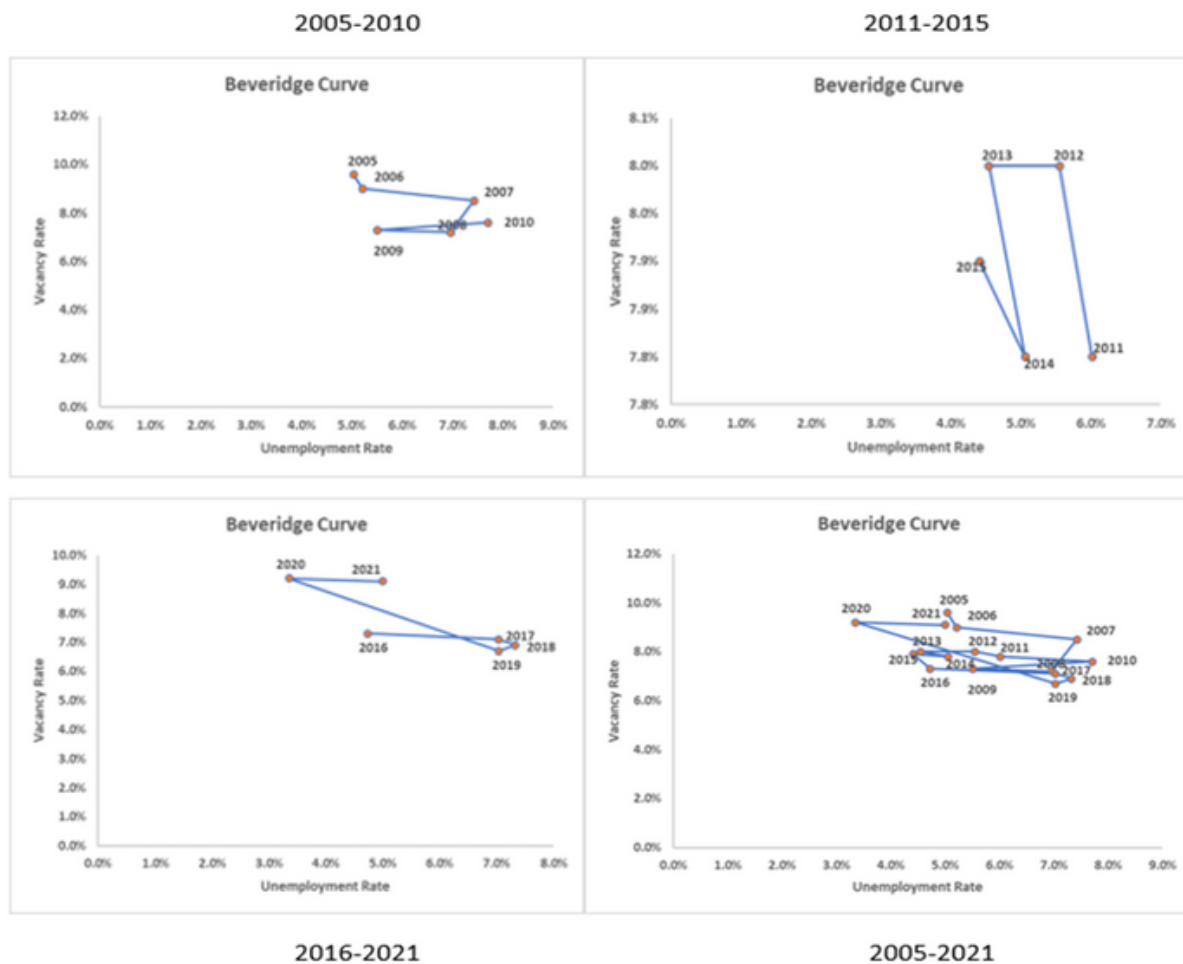
For example, when the economy strengthens the unemployment rate will fall while job vacancies will rise. When the economy weakens, the opposite would hold true. Firms lay off workers, so unemployment rises, and the number of vacancies falls.

11.As well as showing where we are in the economic cycle (boom or downturn), the Beveridge Curve also provides an indication on the overall efficiency of the labour market.

The closer the overall curve is to the origin, the more efficient the labour market is. If unemployment and vacancies are both low, it would suggest that workers and vacancies are being efficiently matched.

When the curve moves further away from the origin and unemployment and vacancies are both high, firms may be unable to find the workers they are looking for despite there being many unemployed people.

Figure 3.6: Beveridge Curve

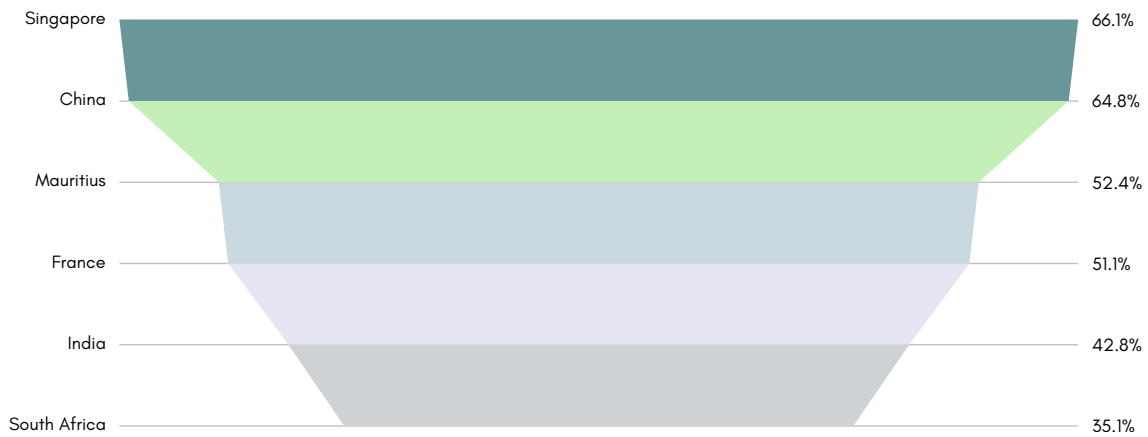


COMPARISON OF THE LABOUR MARKETS OF MAURITIUS AND OTHER COUNTRIES

Figure 3.7 represents employment (total % of labour force). According to the World bank, the highest employment rate in 2021 was observed in Singapore (66.1 percent) followed by China (64.8 percent).

As of 2021, the population of Mauritius was estimated at 1.2 million. The employment rate in Mauritius was 52.4 percent, higher than those of South Africa (35.1 percent), India (42.8 percent) and France (51.1 percent).

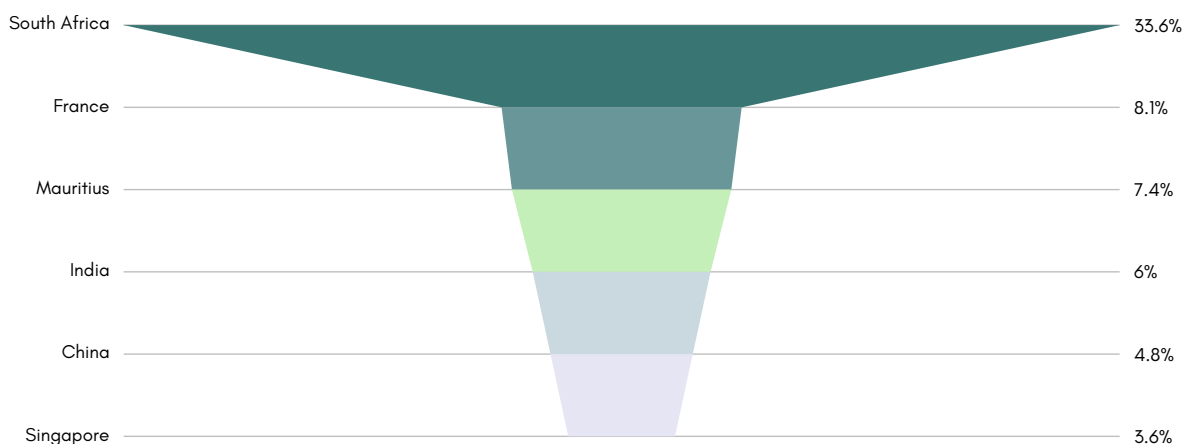
Figure 3.7: International Benchmarking of Employment Rate



Source: World Bank

Analysing unemployment statistics in other countries will help Mauritius understand underlying issues involved and/or related to their own unemployment rates. Figure 3.8 represents unemployment (total percent of labour force) of other economies.

Figure 3.8: International Benchmarking of Unemployment Rate



Source: World Bank

The lowest unemployment rates in 2021 for countries included in the comparative analysis were Singapore (3.6 percent), India (6.0 percent) and China (4.8 percent). In France, the unemployment rate stood at 8.1 percent while for Mauritius it stood at 7.4 percent. A major jump was registered in South Africa, increasing the unemployment rate to 33.6 percent.

RAPID LABOUR SHORTAGE SURVEY: METHODOLOGY AND RESULTS

METHODOLOGY

This section sets out the methodology adopted for the surveys to estimate the current labour shortages in Manufacturing, ICT/BPO, Healthcare, Construction and Tourism & Hospitality.

The primary source of data was a structured questionnaire sent out to various organisations and stakeholders. The questionnaire included questions on the current number of employees and additional needs by qualification level amongst others.

The abovementioned sectors employ 35.8 percent of the total labour force (184,200) and 43.4 percent of the labour force employed by the private sector. The companies surveyed constitute a workforce of 44,481 people, which represents 24.2 percent of the total workforce in these five (5) sectors.



PROFILE OF RESPONSES

Manufacturing

Maurice Stratégie collaborated with the MEXA for the survey. The manufacturing sector is a major contributor to the Mauritian economy and comprises of sub-sectors such as textile & apparel, agro and food processing, seafood processing, and jewellery. Data from 43 large companies operating were surveyed, representing more than 25,000 workers. In total, workers employed in the sector amount to 85,000.

ICT/BPO

102 companies responded to the survey, including the major players in the sector. 5,368 workers are currently employed by these companies. The sector employs 18,400 workers in total.

Healthcare

7 companies responded to the survey, employing around 236 employees. Total employment in the sector stands at 18,900, of which 16,000 are employed in the public sector according to the Ministry of Health and Wellness.

Construction

BACECA provided support in reaching out to companies for the survey. 29 companies responded to the survey. These companies employ 2,977 workers, mostly low qualified manual workers (78 percent).

Tourism and hospitality

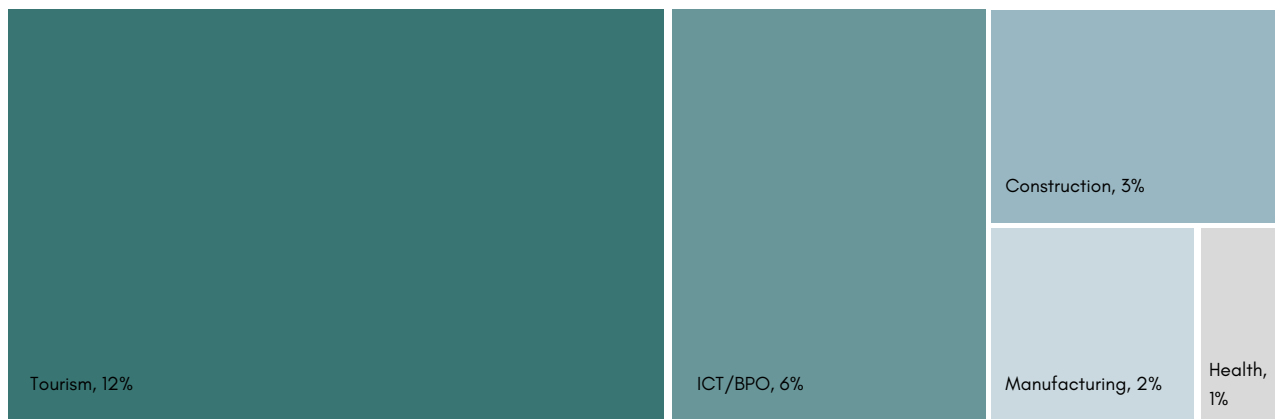
The targeted participants for the survey were hotels across Mauritius ranging from 3 star to 5-star hotels. 35 hotels employing around 11,000 persons responded to the survey. The tourism and hospitality sector (including restaurants), employ 36,000 individuals.

FINDINGS

Labour shortage

Figure 4.1 shows the immediate shortages noted in the different sectors. The tourism sector is ready to employ 4,174 workers immediately representing 11.6 percent of the total employment, while manufacturing, construction, ICT/BPO and healthcare have immediate vacancies for 1,478 (1.7 percent), 1,116 (2.7 percent), 1,020 (5.5 percent) and 137 (0.7 percent) posts respectively.

Figure 4.1: Labour shortage



In the immediate, therefore, based on the sampled surveyed, there are jobs availability for 7,925 employees in these companies. In fact, given that these companies interviewed currently employ 44,481 workers, the additional recruitments would imply an increase of 17.8 percent on the current labour force. If extended to the whole population (of these 5 sectors), this would represent an additional 32,787 workers.

Labour shortage and educational attainment levels

The requirements of the different sectors are heterogenous however, especially with regards to qualifications as shown in Table 4.1.



Table 4.1: Labour shortage by sector and educational attainment

	Manuf cturing	Healthc are	Constru ction	ICT/ BPO	Tourism	Total
Primary	36.6%	0.0%	80.2%	0.0%	3.7%	20.1%
SC	45.3%	0.0%	3.2%	7.5%	6.9%	13.5%
HSC	12.8%	0.0%	0.9%	47.8%	27.6%	23.2%
Diploma	4.2%	98.5%	9.5%	7.9%	61.4%	37.2%
Degree/professional qualification	1.1%	1.5%	6.2%	36.7%	0.4%	6.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

In the **manufacturing sector**, the majority of vacancies require only primary and secondary education. The demand is mostly for the textile sector, especially for machine operators, process operators, quality controllers, packers, sample operators, washplant operators amongst others. There is also significant demand for occupations of a more general nature such as drivers, helpers, handymen and in the administrative activities.

In the **healthcare sector**, the demand is skewed heavily towards diploma holders. These include nurses, laboratory technicians and healthcare assistants. To a lower extent, specialists in medicine are also in demand.

In the **construction sector**, there is massive demand for masons, machine operators, cabinet makers, and other manual workers amongst others. These employments require mostly primary education. More specific jobs are available, for example engineers, health and safety officers, site managers and engineers, necessitating at least a degree.

In the **ICT/BPO segment**, ICT companies are mostly recruiting software engineers, data analysts, cybersecurity specialists, web developers amongst others who are expected to have an undergraduate degree. On the other hand, there is significant demand for HSC holders in the BPO sector for customer agents, sales support, admin support and customer support agents.

In the **tourism and hospitality segment**, where there is the largest shortage on note, 89.0 percent of jobs available require either an HSC or a diploma for room attendants, waiters, guest relations, F&B amongst others. The tourism sector has been facing an acute shortage for different reasons. The closure of borders has accelerated mobility of staff into other sectors, while there is growing demand for cruises by local labour.

Overall, it is worth noting that **only 6.0 percent of the total shortage relate to jobs requiring a degree or a professional qualification**. This may lead to several observations. A main reason for the difficulties in recruiting local labour as cited by the respondents include unwillingness of Mauritians to work in these sectors.

Table 4.2: Unemployment by educational attainment

Educational attainment	No.	% of total unemployed
Primary	10,600	21.9%
Below PSAC/CPE	8,000	16.5%
Passed PSAC/CPE	2,600	5.4%
Secondary	27,700	57.2%
No passed SC	16,200	33.5%
SC	7,000	14.5%
HSC	4,500	9.3%
Tertiary	10,100	20.9%
Total	48,400	100.0%

When compared to official figures of the unemployed with regards to the level of education, it is found that 20.9 percent of the unemployed have tertiary level of education. The sectors under study require only 6 percent of expected recruits to have at least a degree.

On the other hand, the unemployed holding primary and secondary levels of educational attainment are much more in line with the requirements of the industries. Despite that, the companies are finding it difficult to recruit.

This may point towards two main explanations. First, the skills of the workforce are not adapted to requirements of the industry, which for primary and secondary educational attainment levels should have been enough as they do not require any technical or specific specializations.

Second, the unemployed do not find it attractive to work in these sectors. This could be further indication of possible dissatisfaction with wages and/or working conditions, or the unemployed do not find any interest in these sectors.

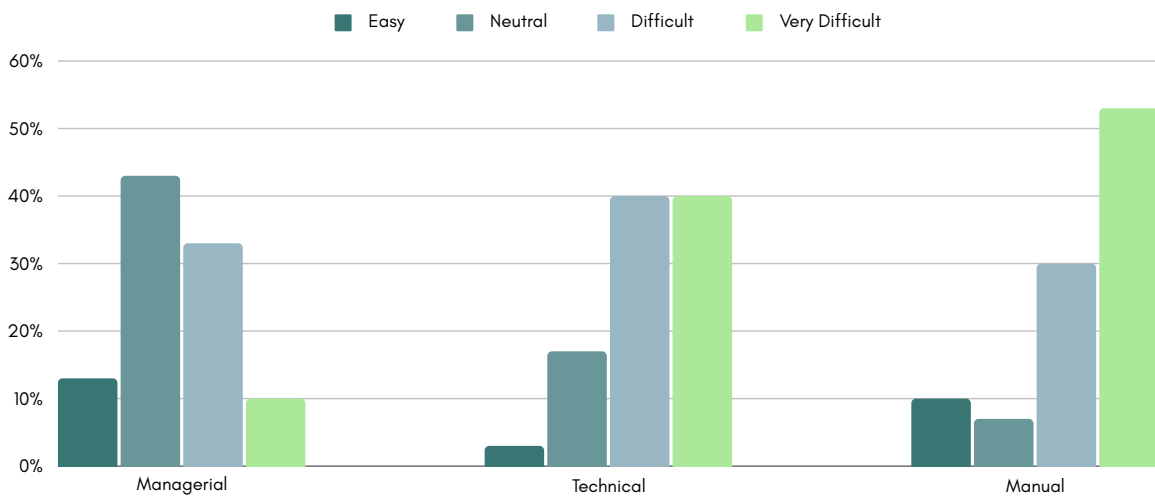
Difficulties in labour recruitment

A question was put on the level faced by local enterprises with regards to the recruitment of local and foreign labour, at different levels of occupation in the workforce.

For the recruitment of local labour, at managerial level, 56.6 percent did not find it difficult to recruit. As the level of management competencies diminished however, the level of difficulty faced in recruitment increased drastically. 80 percent of those surveyed found it difficult or very difficult to recruit labour at technical level and 83.3 percent for manual labour.

The main reasons cited were lack of available skills or even interests for the jobs advertised following adverts, which leads to the firms having recourse to foreign labour. This is especially prevalent in the construction industry.

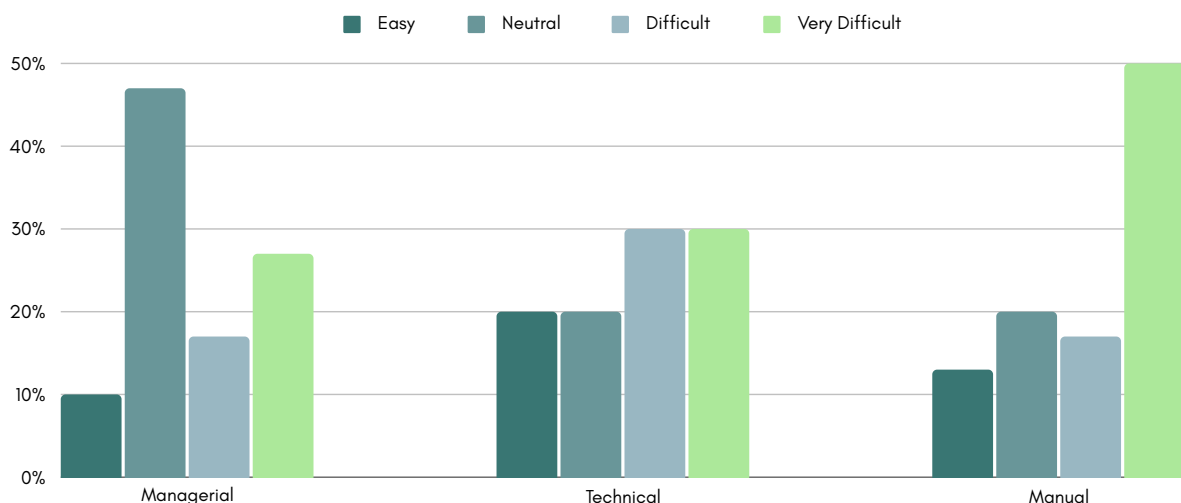


Figure 4.2: Difficulties in recruiting local labour

The same dynamics are noted in the recruitment of foreign labour, with more difficulties being faced in the recruitment of technical and manual labour.

As shown in Figure 4.3, 43.4 percent find it either difficult or very difficult to recruit foreign labour at managerial level.

On the other hand, for labour with technical skills, 60.0 percent find it to be either difficult or very difficult. For manual labour, this figure increases to 66.7 percent.

Figure 4.3: Difficulties in recruiting foreign labour

The reasons for the level of difficulties faced are different, however. Operators have explained that it is reasonably easy to get labour willingly from abroad. However, the main difficulty lies in the cumbersome and lengthy administrative process for recruitment of foreign labour.

IMPACT ON THE ECONOMY

Labour participation is one of the main factors which affect growth, directly and indirectly. For instance, Zulu and Banda (2015) found that both South Africa and Mauritius have experienced positive economic growth as a result of the expanding labour force.

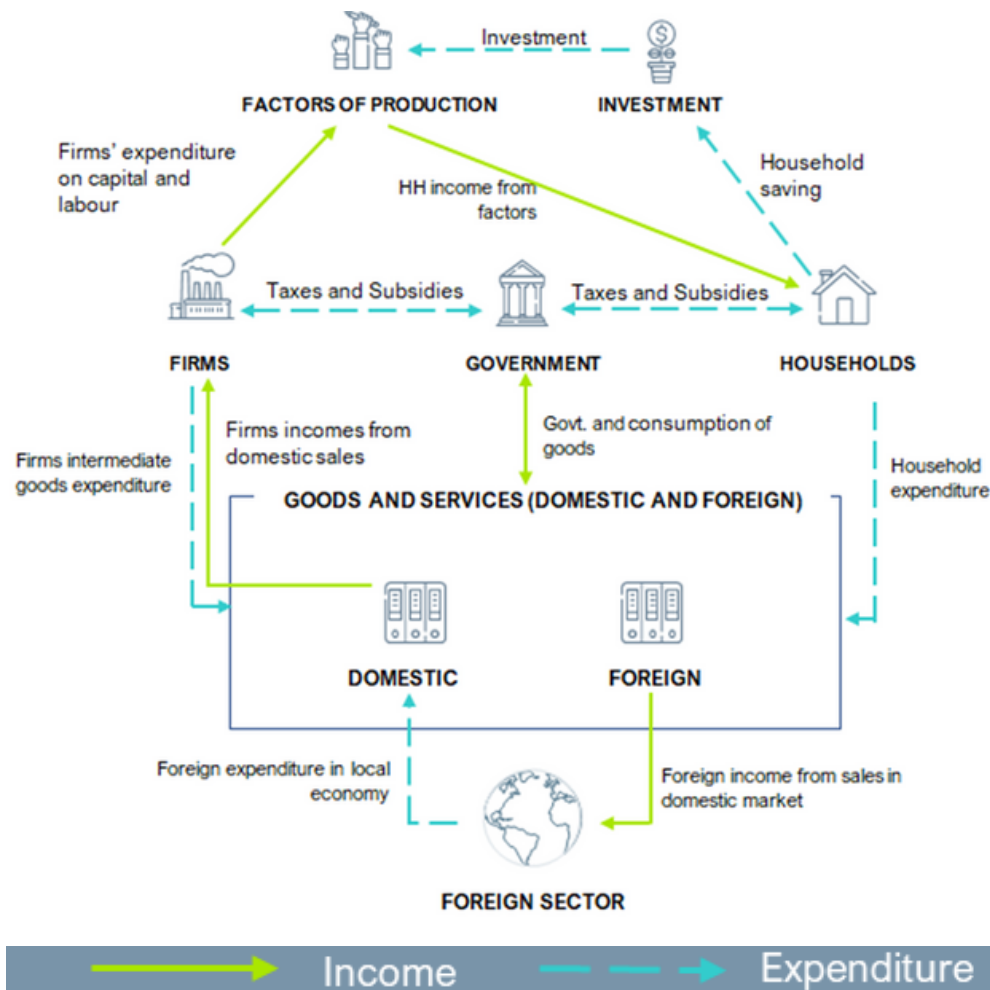
However, they argue that to maintain productivity and economic expansion, high-skilled labour is required. In terms of growth accounting, labour contributes around 40 percent of GVA in Mauritius. Accounting for the effect of labour productivity growth through human capital accumulation and the spillover effects of labour on capital productivity, the total contribution of labour in GDP could be more significant and up to two thirds of GDP according to the OECD (2009).

Using a Computable General Equilibrium model, we estimate the potential loss in GDP as a result of the shortage in the labour market revealed by our survey. The methodology accounts for the direct and indirect contribution of labour demand on GDP.

Labour shortages impact the economy through different channels, with direct, indirect or induced impacts. Hence, measuring the above channels would require a robust economy-wide model. A Computable General Equilibrium (CGE) model is well suited to analyse the economic impact of the labour shortage as it can coherently capture the effects of all these channels and the interlinkages among them.

The CGE models constructed follow the neo-classical school and is underpinned by the circular flow of income. The key characteristics of the models are described at ANNEX. The basic flows depicted in the model are illustrated in Figure 4.4 below.



Figure 4.4: Basic flows in the CGE models

In the context of the current study, the use of this model is justified as follows:

- CGE is not only able to assess the effect of labour shortages on the overall economy, but it can also simulate the effects across every sector in the economy in order to get a more accurate impact on businesses across the economy.
- Within the CGE modelling framework, we can measure the supply chain effects across the economy. For instance, the impact of a labour shortage in the tourism sector will affect several sectors in the economy depending in the extent of backward and forward linkages in the supply chain. For example, the food, transport and even the banking sectors would be affected. In turn, when the transport sector is affected, the model will also capture the effects on the sectors linked to the transport sector.
- CGE can capture the interlinkages between the labour market, consumption and production at a sectoral level.
- CGE models also accounts for induced economic effect. A lower production level across businesses

due to labour shortages is likely to lead to lower wage and higher unemployment which will in turn affect income of households. Lower income will reduce consumption and further affect businesses.

We found that the labour shortage in the five surveyed sectors will account for up to 2.6 percent of total GDP. The effects vary across sectors depending on the extent of the shortage in labour and the reliance of labour (capital-labour ratio).

The effect on the tourism sector is the highest at 19.6 percent in terms of potential GDP loss. The manufacturing sector is less affected (3.2 percent) given the relatively small proportion of labour shortage and the intrinsic capital-intensive nature of the production process.

Table 4.2: Unemployment by educational attainment

	GVA (Rs M)	Capita l- Labour Ratio	Emplo y- ment	Comp ensati on of Emplo yees (Rs M)	Labou r Shorta ge	GVA Effect (Rs M)	Sector al GVA Effect
Manufacturing	66,328	64%	85,000	24,091	7.3%	2,131	3.2%
Construction	25,685	52%	41,900	12,454	13.9%	2,093	8.1%
Accommodation and food service activities	32,298	66%	36,000	10,927	47.9%	6,327	19.6%
ICT	22,493	64%	18,900	8,009	18.9%	1,828	8.1%
Health and social work	25,267	40%	18,400	15,254	6.5%	1,206	4.8%

Extrapolating the proportion of labour shortage to the other non-surveyed sectors of the economy as an approximation, we estimated that the economy-wide labour shortage in the economy could lead to a potential loss in GDP of up to 5.3 percent.

The above effects do not take into consideration the potential of unlocking new sectors that additional labour could bring to the economy. For instance, fintech sectors and artificial intelligence related sectors have not been able to kick start in Mauritius due to the lack of the right skillset in Mauritius. The GDP effects of developing these sectors would be higher than captured in our estimation above.

SUMMARY OF FINDINGS AND WAY FORWARD

The overarching objectives of the research were to provide an estimate of the labour gap in the construction, tourism & hospitality, healthcare, ICT/BPO and manufacturing sectors and to estimate the impact of this gap on the economy.

A survey was carried out in this respect, which also allowed a better understanding of the main underlying factors behind the persistent skills gap, which has been a topic of concern recently in Mauritius.

The salient points of the study are summarised as follows:

- For the surveyed companies in the five sectors, there are immediate jobs availability for 7,925 employees which would imply an increase of 17.8 percent on their current labour force. If extended to the whole population (of these 5 sectors), this would represent an additional 32,787 workers.
- Only 6.0 percent of the total shortage relate to jobs requiring a degree or a professional qualification. When compared to official figures of the unemployed with regards to the level of education, it is found that 20.9 percent of the unemployed have tertiary level of education.
- On the other hand, the unemployed holding primary and secondary levels of educational attainment are much more in line with the requirements of the industries. Despite that, the companies are finding it difficult to recruit.
- For the recruitment of local labour, at managerial level, 56.6 percent do not find it difficult to recruit. On the other hand, 80 percent of those surveyed found it difficult or very difficult to recruit labour at technical level and 83.3 percent for manual labour.
- The main reasons cited were lack of available skills or even interests for the jobs advertised following adverts, which leads to the firms having recourse to foreign labour. This is especially prevalent in the construction industry.
- For the recruitment of foreign labour, 43.4 percent find it either difficult or very difficult to recruit foreign labour at managerial level. For labour with technical skills, 60.0 percent find it to be either difficult or very difficult. For manual labour, this figure increases to 66.7 percent.
- Operators have explained that it is reasonably easy to get labour willingly from abroad. However, the main difficulty lies in the cumbersome and lengthy administrative process for recruitment of foreign labour.
- With regards to the impact of the shortage of labour on the economy, the gap in the five surveyed sectors will account for up to 2.6 percent of total GDP.
- The effect on the tourism sector is the highest at 19.6 percent in terms of potential GDP loss. The manufacturing sector is less affected (3.2 percent) given the relatively small proportion of labour shortage and the intrinsic capital-intensive nature of the production process.

- Extrapolating the proportion of labour shortage to the other non-surveyed sectors of the economy as an approximation, we estimated that the economy-wide labour shortage in the economy could lead to a potential loss in GDP of up to 5.3 percent.

This poses a major concern for the economy as companies are having to reject orders as they do not have the capacity to meet them, which is likely to harm the medium to long term attractiveness of Mauritius for products and services in these sectors.

Foreign labour, especially at technical and manual levels, has become a sine qua non in these sectors, and it is imperative that the existing issues are addressed rapidly to prevent a slowdown of the current momentum and a long-term harm to the economy's growth potential.



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ANNEX: THE COMPUTABLE GENERAL EQUILIBRIUM MODEL

The model is a fully dynamic based on rational expectation and it tracks the evolution of the economy over time (typically over 30 years) in response to a policy change. In the baseline, it is assumed the economy follows a steady-state growth path where all economic activities grow at constant rate.

One key advantage of the CGE model is that it captures interlinkages among the sectors in the supply chain across the whole economy. The model will capture both the forward and backward linkages among the all the sectors. It is hence possible to investigate the effects of an increase in competitiveness of a particular sector on other sectors in the economy. For instance, we can measure the effect of an expansion of the manufacturing sector on the financial sector and the subsequent effects of an expansion of the financial sector on other sectors. The model is disaggregated into at least 22 sectors.

The factor market consists of labour, capital and land. For each of the 22 sectors, labour is split into primary, secondary and tertiary to reflect the type of work they are involved in. Typically, CGE models assume no involuntary unemployment such that there is always full employment and zero excess capacity in labour. This assumption is not relevant for the concerned economies, and as a result, we introduce structural unemployment in the model which is governed by a wage curve within a labour-leisure choice supply framework. The model also has the capability of setting up a minimum wage. This sophisticated labour market framework will enable accurate modelling of labour productivity/efficiency policies.

Every year, some of the existing capital stock depreciates and firms must replace obsolete capital with new capital in order to maintain output. Additional capital is replenished via investment: what is not spent on consumption can be saved and invested, leading to additional capital in the future. The model accounts for the cost of installing new capital over and above the price of capital. This can be thought of as the cost of installing new equipment or training workers to operate new machinery.

Investment in the model is subject to installation costs whereby the cost of investment is related to the current level of capital stock, the magnitude of investment and a 'cost of capital adjustment' parameter. This implies that more rapid capital accumulation becomes increasingly costly:

$$I_{j,t} = J_{j,t} \left(1 + \varnothing \frac{J_{j,t}}{2K_{j,t}} \right)$$

where \varnothing = adjustment cost of capital, I is gross investment and J is net investment. When \varnothing is greater than zero, investment incurs additional costs over and above the purchase price of capital. This may include installation costs or learning and training costs.

There are 5 household groups in the model classified based on income level.

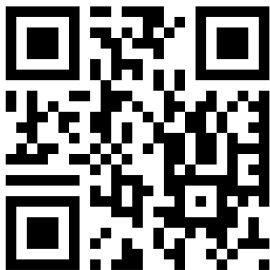
The model will also model the behaviour of other economic agents like government, corporate sector, investors, importers and exporters.

The foreign sector purchases exports from domestic firms, and domestic households and firms purchase imports from the foreign sector. Foreign exchange is used to purchase imports, and its value is determined by the value of exports and imports in the economy. For example, if the value of exports increases because of domestic firms becoming more competitive after an export tax cut, then this increases the value of foreign exchange causing the price of imports to fall. Data for the value of imports and exports of goods and services by product come from the Supply and Use Tables.

Government collects all tax revenues and is also a major demand source for public goods like education, health and public administration. The government also provides transfers (like benefits) to households. The model has the ability to test various government closure rules. For instance, extra tax revenues can be used to reduce debt or increase demand for public goods or increase transfers payment.

Major tax heads such as income tax, corporation tax, VAT, customs duty, export taxes are modelled. Income tax rate is differentiated by household types, while the other taxes are levied on a sectoral basis making the model very flexible in terms of modelling designs of tax reforms.

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