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Abstract

Special economic zones have been increasing in Zambia over the last few years. The impact of the zones on the local economy has not been fully understood. The purpose of this research is to have a holistic overview of zone history, activity and impact on the formal job sector. To ascertain the interaction of the zones with national economic policy. This study provides a literature review on zones in Zambia and analysis primary and secondary data on the zone's contribution to national employment, manufacturing FDI. It also analysis the effects of economic policy on zone investment and occupancy rates. The findings show zones have had modest contribution to formal job creation, but the lack of zone-specific legislature is negatively affecting their performance.

Sintesi

Negli ultimi anni in Zambia sono aumentate le zone economiche speciali. L'impatto delle zone sull'economia locale non è stato pienamente compreso. Lo scopo di questa ricerca è quello di avere una panoramica olistica della storia, dell'attività e dell'impatto della zona sul settore del lavoro formale. Verificare l'interazione delle zone con la politica economica nazionale. Questo studio fornisce una revisione della letteratura sulle zone dello Zambia e analizza i dati primari e secondari sul contributo della zona all'occupazione nazionale e agli investimenti diretti esteri nel settore manifatturiero. Analizza inoltre gli effetti della politica economica sugli investimenti nelle zone e sui tassi di occupazione. I risultati mostrano che le zone hanno dato un contributo modesto alla creazione di posti di lavoro formali, ma la mancanza di una legislazione specifica per zona sta influenzando negativamente le loro prestazioni.

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Article I. Overview of Special Economic Zones In Zambia

Introduction

Zambia is considered the archetype of economic decline, ‘Resnik and Thurlow 2014. ‘Zambia was middle income country in 1960’s a status it lost in 1970’s it regained the status in 2010,’ Cheelo et al 2020. The initial economic decline was due to failure of the planned economy and external shocks. Then the economy was liberalised, and structural adjustment programs were introduced. The country failed to diversify its economy and heavily reliant on mining industry. Zambia experienced strong economic growth over 2004-2014 but the growth has not resulted poverty reduction (2015, 54.4 % of Zambians were estimated to poor,’ Phiri and Manchishi 2020. This is because economy’s dependence on commodities and cyclical nature of commodity prices. Mining sector has low labour absorption capacity, and most mines are privately owned. Government revenue from industry is marginal. Manufacturing value added 2010-2018 5.5 percent of GDP,’ UNIDO 2020.

‘Special Economic Zones (SEZ) aim to overcome barriers that hinder investment in the wider economy including restrictive policies, poor governance, inadequate infrastructure and problematic land access,’ Farole 2011. Zambia receives significant amounts of foreign direct investment annually, most in the extractive industry. SEZ in Zambia are referring to as multi facility economic zones (MFEZ). The first MFEZ in Zambia became operational in 2007. In 2022 there were 5 MFEZ operational, 2 industrial parks and 4 planned MFEZ. ‘

‘Literature on the impact of special economic zone on economic development in Africa is both limited and relatively outdated,’Mugano 2021. This research will add to the research about special economic zones in Africa, there has been an increase in studies on special economic zones in Africa (Mwansa, Shaikh, and Mubanga 2020), (Wu, Hong, and Muhammad 2020), (Karambakuwa et al. 2020),(Adu-Gyamfi et al. 2020; Newman and Page, n.d.). While these studies focused on the performance of the zones and comparing them to zones in other parts of the world. (Mwansa, Shaikh, and Mubanga 2020) is a case study on the Lusaka South Multi Facility Economic zone addressing why it has been successful in attracting business to the zone. (Sikozi, Siaminwe, and

Mwenda 2016) assessed the readiness of local manufacturing industry taking advantage of spill overs from the zones. This study will be focused on performance of zones in terms of companies operating in the zone, occupancy level or land utilisation, investor conversion and FDI. Are the zones in Zambia attracting investors. How successful are they in converting and maintaining investors. This study will assess the individual zones in terms of zone, size, location, activities and zone orientation. This paper seeks to give a wholistic view of special economic zones in Zambia not analysis of the success or failure of the zones.

Literature review

Special Economic Zones are defined as ‘geographically designated areas that can be physically secure and have more liberal economic laws than the rest of the country,’ Zeng 2016. Certain types of special economic zones are considered old fashioned or traditional models, free trade zones, export processing zones and free ports. Zones have different physical variations, from enclave type, single factory, industrial zones, single commodity. Free trade zones are mostly located by sea ports, airports, major roads, railroads or in border region. SEZ can take different forms depending on the policy goal and the host country level of economic development. Free ports, free trade zones, industrial parks. Features of zones are secluded area for operation, special incentives for investors like, tax breaks, no import duty and infrastructure. ‘SEZ have promoted and accelerated the development of economy to increase infrastructure facilities, employment, and exports,’ Fahad et al 2018. Agro-processing industrial parks provide infrastructure to support agricultural processing and related activities. They bring together farmers, processors and retailers to maximize value addition and manufacture minimize wastage while increasing farmers income and create employment opportunities,’ ECA 2022. Agro-processing zone is defined as, ‘integrated clustering model that combines different types of agricultural production chains, maximizing operational synergies, economies of scale and income generating activities for the community in which it is located,’ UNIDO 2016. ‘African governments are developing agrizones to promote food security and shift from subsistence farming to agro-industrial development,’ UNCTAD 2019. Agro industrial parks are comprised parts of a transformation center to collect and share produce, a processing center for production local collection and research and consolidation and service and services to customers. ‘Industrial parks can create 2000 to 4000 direct jobs and indirect jobs and can raise the income for smallholder farmers by integrating them and small scale processes into

them into value chains,' UNIDO 2016. Ethiopia has created agro-processing parks, . The challenges of agro industrial parks in Africa is 'absence of critical mass of skill, weak linkages between business and knowledge institution weak government and institutional support and increase global competition,' ECA 2022.

SEZ's have a developer, zone owner, zone manager, zone operator or tenants and zone regulator. Zone developer can be private or public company that constructs the zone. Government can construct zone and then lease to another company to manage the zone. Zone managers are companies that oversee those daily operations of zone. Zone developers can be also zone managers. 'Zone developer responsible for establishment if individual zone, land arrangements and provision of infrastructure,' UNCTAD 2019. Zone operators/ tenants are the companies that conduct business within the zone. 'Zone authority (regulator) supports government in policy making, monitor zone related progress and regime, collect relevant data, issue permits and approvals. Regulators in some countries have multiple roles, they regulate the zones, and they develop zones. For a SEZ program to be successful there should be a clearly defined responsibility zone regulators, zone developers, zone managers, zone operators and government. Zone authorities tend to report to line ministries like Trade and Industry this tends to diminish their power to coordinate across different ministries. 'Best practice is when the regulator reports to the highest possible level governments such as the president or Prime Minister, ECA 2022. This empowers the regulator to coordinate across different government agencies and ministries.

Zones have evolved significantly since their inception. According to Zeng 2021 zones have evolved from SEZ 1.0 to SEZ 4.0. The first generation of zone (SEZ 1.0), 'mostly took the form of export processing zones established to attract FDI in labour intensive manufacturing sector,' Farole 2011. These represented a move from import substitution strategy by most governments as they needed FDI and technology for their industry to be more productive. Early zones started in the 1960 and 1970's countries used zones as means to enter international market through exports. The zones tend to be centred around one industry. Zeng 2021 assert that first generation zone were successful in certain aspects like attracting FDI, promoting exports and forex earning but they had limitations they didn't have links to host economy and relied heavily on incentives. As the world economies became more integrated this created more competition for national economies and

zones. EPZ have short life span as they mature, they lose the low-cost advantage and investors move to another destination. Necessitation change in EPZ leading to development of SEZ 2.0 'were wider in size, comprised multi-sectors, multifunctioning, and better connected to local economy,' Zeng 2021. Instead of previous versions of zones consisting of single industry, these new zones house different types of industries within the zones and other supporting services. SEZ 3.0 are 'integrated solution that addresses global trend of low-carbon or green growth with trade and investment policies with domestic, institutional framework, industry and community,' Kechichian and Jeong 2016. The evolution of SEZ 3.0 was driven by need to for sustainability in production combined with consumer environmental consciousness. Ecological industrial parks are 'dedicated areas for industrial use at sustainable site that ensures sustainability through integration of social, economic and environmental quality aspects into siting, management and operations,' UNIDP 2017. Companies wanted green supply chain due to consumer's interest in sustainability of products they purchase and environment awareness. SEZ 4.0 are 'zones in high value-added service sectors (finance, trade services) and more business friendly in terms of laws and regulations,' Zeng 2021.

'Zones are potentially effective tool governments can use to shape and drive industrial growth,' Dassel and Eckerman 2012. Countries create zones to overcome barriers to investment in the country 'SEZ aim to overcome barriers that hinder investment in the wider economy, including restrictive policies, poor governance, inadequate intrastate and problematic land access' Farole 2011. Transition economies utilise zones to help country liberalise economy gradually reduced effects of new system. But more countries are using them as way improving business environment and diversification.

Special economic zones provide two types of benefits short term benefits and long-term benefits. The short-term benefits are called static benefits, zones are used in the short term as instrument of trade and investment policy. Resulting in capturing gains from specialization and foreign exchange the other short-term benefits include job creation, increase in exports and creation of economic value added. The long-term benefits are the dynamic benefits which are structural and developmental benefits that include promotion of non-traditional economic activities,

technological transfer, encouragement of domestic entrepreneurship and of promote trade openness.

According to Dassel and Eckerman 2012 there are several factors that need to be in place for zone programmes to be successful 1) there should be clear strategic objectives to be achieved through the program (i.e increase exports, job creation, economic diversification). Because if conflicting objectives are perused, they cancelled out each other. 2) Clear defined targets and metrics should be made for each goal. Goals allows government to offer infrastructure, support services. 3)Government should choose industries that they want to occupy the zone, industries should be competitive and close located to downstream industries.4) Job creation of zones should be the main focus (zones and companies to be evaluated on their job creation capabilities). 5) Regulations to be designed to make it easy for companies to create jobs. 6) Education training institutions to engaged to provided required employees. SEZ are not static their gains depend on cycle or stage of evolution of zone. Zone success depends on 'strategic location, integration into overall development strategy, understanding of market , leverage of competitive advantage and ensuring are special in terms of business environment,' UNCTAD 2020. Failure of African zones to attract large scale investment reduces their ability to gain return on investment of the zones.

Methodology

Primary data collected for the study was collected through questionnaire to zones developers, interview with zone developers, managing, questionnaire to directors or operations managers for zones entities, interview with Zambia Development Agency. Secondary data was collected through company reports, ministerial report and other publicly available information.

The questionnaire and interviews for zone developers was to be conducted at all the operational zones. At the time there were 3 MFEZ, one IP that were operating and new zone has been declared. Two MFEZ and two IP participated in the interview and questionnaire.

In December of 2021 the IP's had 18 companies operating and sampling was based on availability. The 3 MFEZ had 86 companies operating, margin of error was 5 percent and confidence level was 95 percent, population proportion 50 percent. Sample size was 76 companies. Unfortunately, 51 companies were in Chambishi zone and researcher had planned to administer questionnaire in Lusaka. There were 32 companies in Lusaka and only 5 companies responded to the questionnaire.

The questionnaire for zones developers had four sections. The first section collected information to zones ownership, year of approval MFEZ license, date of commencement of operations, locality and size of zone (including entities operating in the zone). Section two, inquired about availability of one stop shop and the services it provides, infrastructure available on zone, if land is sold or leased, zone occupancy for 3 year period, zone marketing activities and industries operating in zone. Third section was about training services offered by developer, how many people have been trained, if developer assists operators hire staff and how that is done. If the service is charged for, if there are set wage rates in the zone and if developer is involved wage negotiations between the operator and their employees, if there labour tribunal, presence of zone specific regulations, gender policy within zone, staffing records that are disaggregated based on gender, annual employment figures. Fourth sections was on zone funding, source of capital, income generating activities. The zone developer interview had questions to guide, main objectives for establishing zone, original design of zone, measures

The questionnaire for operations manager had five sections. The first section was company information, date of establishment, industry, if its subsidiary, if financials are separate from holding company, company ownership, female shareholders, its new company in the country and length operations in the zone. Second section, why company chose invest in Zambia, how they learned investment opportunities, why they choose to operate in the zone, length of time to obtain approval to operate in zone, source of delay, company registration process, intermediaries used in application process, rating of zone infrastructure (warehouse, roads within zone, connecting roads and other), utilities installation time, electricity reliability, power outages frequency, loss due to power outage (sales loss, idle production time), procurement of electricity back up (generators and fuel), ease of obtaining licenses. Level of satisfaction with zone developers' management, challenges within the zone and irregular payments to obtain service. This section ranking of items that influenced investing in zone, advantages and disadvantages of investing in Zambia. Opinion

of Zambia investment climate. Fourth section was about the main product produced, top 5 products, top markets, daily production hours and shifts. Production capacity, export of products, percent of inputs sourced locally and percentage of inputs imported. When firm began exporting directly or indirectly. Challenges in meeting production targets, future plans (expansion, downsizing). Fifth section was about how company obtained start up capital, reinvestment and purchase of capital equipment.

Zambia development agency questionnaire first section was about MFEZ, if there is team dedicated to supervising them, size of team, team selection criteria, qualifications and experience. If there is unit that monitors zone performance. What metrics are used to measure zone performance. Vetting process of companies registering to operate in the zones. Section two was focused on zone developers, criterion used to approve them, ZDA specific criteria for selection, minimum capital requirements and agreements signed with developers. Services offered to zone developers, how incentives are determined and how frequently they are reviewed. The last section was about zones operators, how they are assisted when setting up in the zone, special incentives for local companies operating in the zone, how do they ensure compliance of operators, are there requirements for local staff numbers or quotas, is there minimum value added for production companies, treatment of companies with operations within zone and outside, treatment existing companies relocating into zone, incentives for labor intensive production, coordination with other government departments in supervision of operators. ZDA support for training of employees within zone.

All the respondent's were given participants information sheet and those who agreed to proceed were given consent form to sign before the questionnaire was administered or they were interview

Findings

Table 1 Overview of Zone in Zambia

Special Economic Zone	Date Commenced operations	Location	Size in hectors	Ownership
Chambishi	2007	Kalulushi	1158	Private
Lusaka East	2010	Lusaka	570	Private
Lusaka South	2012	Lusaka	2100	Public
Roma Park IP		Lusaka		Private
Sub-Saharan IP	2012	Ndola	250	Private
Jiangxi	2021	Chibombo	2400	Private
Kalumbila	Under construction	Kalumbila	5040	Private

Source ZDA 2022 and Ramaloko 2022

Table 2 shows overview of zones in Zambia, Chambishi zones is the first zone to become operational in the country and its the fourth largest zone in terms of land size. Chambishi zone has been operating for 17 years. Kalumbila zones is the largest and newest zone. The zone will comprise of the whole town of Kalumbila. Jiangxi is the second largest zone and it's been operational for two years. There is only one publicly owned zone Lusaka South is owned by government through Industrial Development Corporate and Ministry of Finance.

Table 2 Planned Zones

Proposed Zones
Kafue Iron and Steel MFEZ
Ndola MFEZ
Chembe MFEZ
California Beverages Industrial Park
Kabwe Industrial Park
Lumuwana MFEZ

Source Ministry of Commerce 2019

Kafue Iron and Steel MFEZ, land has been identified the developers will be ZCCM-IH and UMCIL they are yet to create special purpose vehicle that will be developer of Zone. The zone will be first to be developed through public private partnership California Beverages Industrial Park MFEZ, land has been identified and construction is on going. Application to ZDA for MFEZ has been made.

Zambia China Cooperation Zone

Zambia China Corporation Zone (ZCCZ), was established in 2007, it was the first Chinese Oversees Corporation Zone in Africa under the Fourm Of China Africa Corporation (FOCAC). The developers and management is SOE China Nonferrous Metal Mining Group via its subsidiary ZCCZ Development Limited. The zone is made up of two zones Chambishi MFEZ and Lusaka Least MFEZ. Chambishi was declared in 2007, it consist of One Kernel, Two Districts and Four Clusters. One Kernel is the central business district hosting complimentary services for zone with administration, commerce, exhibition and training. Two Districts are Eastern Industrial District and Western Industrial District the districts are dived by highway. Four Clusters are functional clusters, copper processing, electronic and light industry cluster, nonferrous metal metallurgy and derivative industry cluster and nonferrous metal mining, metallurgy and complimentary industry cluster and processing cluster. The zones is anchored on the 3 mines near it. There is 5,000 m²

general service building housing ZCCZ office, an exhibition hall and other services. There are prebuilt standard workshops with office two sizes 1,550m² and 1,080m². Residential section has staff accommodation, and recreation facilities. Bonded warehouse service is available.

The ZCCM declaration was extended in 2010 to include Lusaka East MFEZ. Lusaka East MFEZ is 570 hectares and its located 25 kilometres from Lusaka city centre and near the Kenneth Kaunda international airport. Its the light manufacturing cluster for ZCCZ. The zone has 10 kilometres of tarred road, general service building 1,000m², standard workshops two types 155m² with office and 1080m², conference facility and residential complex. Both zones offer prebuilt standard factories, warehouses and serviced plots connected to water and electricity for lease for their clients.

Table 3 ZCCZ Investments and companies operating 2019-2021

	Number of Companies attracted 2021	Number of companies became operational 2021	Number of Companies attracted 2022	Number of companies became operational 2022	Total Companies operating	Number of projected investments by jobs 2022	Total jobs
Chambishi	1	1	3	3	26	205	6,833
Lusaka East	0	1	2	2	13	60	529

Source Ministry of Commerce, Trade Industry 2021

Table 3 shows the number of new investors and investment for 2019-2021. One company started operating in Chambishi in 2021 and it attracted 3 companies that will create an additional 205 jobs. In 2021 Lusaka East had 13 companies operating and it attracted 1 company.

Table 4 ZCCZ Performance

Actualised Infrastructure Investment by Developer	Companies Currently Operational			Actualised Investment By Operators	
	2019	2020	2022	2021	2022
\$169 million	49	51	23	\$2,170 million	\$1,667 billion
\$25.2 million	15	15	10	\$25.5 Million	\$45.4 million

Table 4 shows the investments made by developer and operator for the years 2019-2022. ZCCZ has invested \$195 million in both zones since 2007. Chambishi has received over \$1 billion in

investments since the zone started operating. Most companies in the zone are capital intensive so they require a lot of capital. Lusaka East has received \$45 million since its inception. It seems to be constrained in attracting and maintaining investment.

Lusaka South

The Lusaka South MFEZ (government owned) sells land to clients who developed their own premises on serviced land. Lusaka South MFEZ is located 10 kilometres from Lusaka city centre and 21 kilometres from the airport. It is also near the Zimbabwe border. It is located 8 kilometres away from railway line but there is no line connecting to zones. The zones were designed as mixed-use city. The proposed business included electrical products, electrical components, machinery, machinery components, medical and scientific measuring devices and parts, processing of gemstones amongst other. The original plan for the zones was designed by a Malaysian SEZ consultant. Lusaka south was initially planned to be high technology park. Feasibility study for the zone was conducted by Japan International Corporation Agency. The zones would be government owned through special purpose vehicle, the developer and zone management would be private companies. Financing would be obtained from investors in the private sector for instance pension funds. The zones would be developed in phases, phase 1 development of industry, core business, residential, worker quarters and institutions. Phase two would include. Phase 1 (2010-2020), Phase 2 2021-2030) Phase 3 2031 onwards. Original zone master plan divided the zone into 5 sections: general industrial zones, high-tech park, common service facility zone, central business district and housing zone. General industrial zone intended for manufacturing industries for small and medium industry and medium and large-scale industry. High-tech Park which would house manufacturing industry with research and design department or high value added. The common service zones planned to house inland port, banking and finance, agriculture, education, government streamlining. Central business district. The housing module is real estate portion of zone comprising of residential housing. The zone was initially created to be high technology zones, with 33 percent of zone dedicated to high technology industry, 5 percent to research and development, 8 percent for institutions. Proposed incentives were zero corporate tax for 50 years 6-8 50 percent of profit taxable, years 9-10 75 percent of profit taxable, zero percent withholding tax for foreign contractors Zones was projected to create 40,000 jobs by 2030

Table 6 highlights the performance of Lusaka South MFEZ for period 2019-2022. In 2019 the zone had been operating for seven years. In 2019 the zone had 11 companies in operation, with an investment value of USD 160 million. There were 38 investors on the zone's books in 2019 and 13 companies expressed interest in conducting business in the zone. In 2020 and 2021 6 companies started operating in the zone. The number of companies didn't increase because of 4 companies withdrawing their investment in 2020. The withdrawn investments led to a loss of USD 40 million. In 2021 two companies closed their operations. Despite the loss 2021 was the year with the highest annual investment of USD 306.39 million followed by 2022 with USD 263.73 million. 2021 was the most successful year for the zone with 115 expressions of interest, 27 new leases and 877ha of land allocated. The zone has 1,524 hectares of usable land, the land utilisation rate was 27 percent in 2019, 35 percent in 2020 and 56 percent in 2021. The land allocation does not include residential land.

Table 5 Lusaka South MFEZ Performance 2019-2022

	2019	2020	2021	2022
Companies operational		17	17	21
companies withdrawn from zone		4		
Expression of interest	16	33	115	
New leases	13	15	27	27
Closed operations			2	
Annual Investment Value	160	100.6	309.39	263.73
Cumulative investment		567.6	877	1.176 billion
Land allocated in year (ha)	71	169	263	172
Percentage of total land	4.7	11.1	32.7	8.2
Cumulative ha	406	541	679	851
Commenced operations		6	6	1
Commenced construction			6	12
Companies constructing			17	24
Investors in books	38	45	63	87
New investors		9	29	28
Approved investments			31	28

Source Lusaka South MFEZ 2020, 2021 and 2022

Investors in the books, these are investors at different stages, land reservation, awaiting approval for Zambia Environmental Management Agency, approved companies, companies constructing, change of land use, feasibility study, operating and pending termination. The breakdown of the

investors is on Table 7. In 2022 the zone had 91 investors, 28 approved investors with total investment value of USD 250,30 million. Twenty-four companies under construction will employ 6,657 people. There were 8 companies still awaiting approval. The investor conversion rates in the zone are low, evidenced by the low number of companies that become operational annually.

Table 6 Status Of Investments Lusaka South MFEZ

Status	Total Investment USD Million	No of investors	Jobs
Approved	250,300	28	4,840
Operational	532,558,559	21	12,779
Construction stage	244,411,116	24	6,657
Change of land use	15,000,000	1	315
Feasibility study	25,000,000	1	15
Groundbreaking	20,125,000	2	458
Pending termination	4,992,12.82	5	1,001
Reserved land	10,000,000	1	100
ZEMA approval pending	42,806,000	8	1,847

Source Lusaka South 2022

Jiangxi MFEZ

Jiangxi MFEZ is located 88 kilometres from Lusaka along T2 highway. Its owned by Jiangxi United Industrial Investment limited. Which is owned by Jiangxi Province China Jiangxi International Economic and Technical Co Limited. Jiangxi started operating in 2021. The zone is in Chibombo district. The zones will have industrial zone, residential and commercial zone, technology and innovation zone, agricultural zone and leisure tourism zone. Phase one has manufacturing plants, warehouse, commercial centre, hotels and housing. A tobacco project is part of the agricultural zone, it includes tobacco farming, tobacco leaf threshing, drying and cigarette production. There will be textile manufacturing, building material, food processing, education and scientific research facilities, medical and public health services, warehousing facilities' had invested USD 50 million on infrastructure with total expected investment of USD 600 million and create 20,000 jobs when complete. Jiangxi zone offer rental of ready built factory shells with office space for lease. The zone will be connected to railway line and will have substation. Golden Eagle

Tobacco processing plant is expected to cost USD 100 million, Jiangxi Xinyu Iron and Steel Group, Electric Porcelain to build electric insulator Jiangxi Electric Porcelain Chamber of Commerce. VLP pharmaceutical Investment Group medical equipment factory and Sun Line International Logistics with logistics service centre.

Kalumbila MFEZ

The whole town of Kalumbila is part of the zone, outside First Quantum Minerals (FQM) Sentinel Mine. The zone will be managed by Kalumbila Town Development Corporation. Kalumbila Town Development Corporation is owned by First Quantum Minerals, a Canadian mining company. The company was developed by First Quantum Minerals to design Kalumbila town that would be near its Sentinel Mine. The town was created because there was no residential area near the mine. Mine workers would have to travel 150 km to the nearest town to access services. Kalumbila MFEZ is expected to make the town self-sustaining independent of mine operations. Kalumbila town is in North-Western province of Zambia, the area is dubbed “new Copperbelt” owing to the increase in copper mines around the area. Kalumbila is 60 km away from Lumwana Copper mine and Kansanshi mines 150 km away. The zone will be an industrial area for the three mines. The zone is close to the Angola border. The industrial area is 97 ha. Expected investment ZMW 988 million. Industries to support mining, surveying, drilling, logistics, analysis laboratories and other services. Application started in 2014, it was declared September 16, 2022. There have been delays in approval of the zone, application was initiated in 2014. The delay was caused by the Ministry of Lands and Natural Resources to issue the land to the company. MFEZ law states that land should be owned by the company before application of license.

Discussion

Pasha 2018 classification criteria, methodology for categorizing zones 4 dimensions, size, location, activities and orientation. Physical size of zone, urban or rural, if near port or airport etc. Activity denotes value addition services, manufacturing, technology development, financial services, tourism and logistics. Orientation is the market of SEZ products (domestic or exports), ownership (public, private or public private partnership), and maturity level of the stage of SEZ

life cycle zone is at. The life cycle starts with incubation stage, growth stage, maturation stage and declining stage. This will be used to discuss the operational zones in Zambia.

Chambishi is in Kalulushi which is near Kitwe, a mining town. It's strategically located across from three mines which provided the copper for the copper smelter which is the anchor industry. There is a railway connection of the zone to TAZARA railway line. The line connects Zambia to Tanzania port of Dar a Salam. The connects makes it ideal for zone entities that export or imports inputs. The T3 highway pass in front of the zone, its highway that connects Zambia to Democratic Republic of Congo at Kasumbalesa. Its connects to Great North road (T2) which goes to Lusaka. In terms of transport network, it's well constructed. Companies that are intending to sell their products closer to the capital (Lusaka) will have to use road to transportation to deliver their products. The road network connecting Kitwe to Lusaka still needs a lot of improvement. The zone is based on nonferrous metal processing and its relevant industries. The location of the zone makes it ideal since there are many mines within the area. Kalulushi is in the Copperbelt which can provide copper for processing at the smelter and the leach plant. The zone is also connected to DRC via railway. Based on the data the zone seems to be at a mature phase. But it's difficult to determine if the zone is at a maturing phase or at a declining phase. Data available is not for a significant period of time, the decline in the business within the zone could be attributed to the economic slowdown due to COVID 19. Chambishi has been operating for 17 years in terms of capital investment it has reached above a \$1 billion in investment. Currently there are only 26 companies operating providing almost 7000 jobs. With the limited information available it is challenging to determine if the zone is underutilized are operating at a minimum capacity. Over the last two years four companies have commenced operations within the zone indicating a low number of companies expressing interest or commencing operations, which might be an indication of maturity.

Lusaka East is located close to the airport end far from any residential area. The city is expanding closer to the zone, eventually it will be more accessible for the workers. The location challenge is especially for the workers within the zone where there is no adequate transportation for them to arrive to work. Zone needs to liaise with private transportation providers for a reliable bus system between the zone and the city for the workers. It's ideal far from the central business district one of the complaints of a tenant that had relocated from the zone what's the distance of the zone from

their customers. Location is fine for companies that don't require customer to come to their premises. the zone is not close to any major highway. Some of the producers have complained about the size of the standard workshops being too big and expensive for small medium enterprises. The complaint was rentals being more expensive than a general industrial area outside the zone. Most of the companies within the zone are producing for the local market. Lusaka East experienced electricity challenges for some time it had to acquire a loan to obtain the substation. Electricity shortage isn't just a problem specific to Lusaka East. Zambia's electricity generation still depends on hydro power. During 2018 the country experienced a drought reducing the electricity power generation. Based on the questionnaire and interviews from operators within the zones, in 2018 they had to find alternative power sources to augment production. Electricity disturbance is a normal occurrence even when there is no drought. Operators complained that electricity tariff is high, another suggested that maybe they should be an incentive of lower tariff for producers. In terms of life cycle it's still under the incubation phase of development. The growth of zone was stunted by the lack of provision of supporting infrastructure by the government. Compelling the zones to provide the infrastructure to improve the environment of the zone. Diverting funds that could be to expand the interval infrastructure. The low number of companies commencing operations or new investors within the zone is a sign zone in its early phase of development.

Lusaka South outside the city center near leopards hill a new residential suburb. Its an ideal location because of its proximity to the city, (access to the market). Near the Zimbabwe border for exporting companies. The zone does not provide pre-built factories, it only provides serviced land. Companies have to construct their own premises which could be a deterrent for SME with limited capital. High number of new investors over the last two years. Has forced management to allocate land in the sections of the zone that have not been developed. During a site visit that was conducted by the researcher some companies were constructing or operating in premises without tarred roads (new section only have gravel road). The zone management will have to expedite provision of onsite infrastructure to be able to retain and attract more customers. Lusaka South annual report 2022 management stated that they had lost some investors or some lost interest in investing because the areas where they were being allocated land did not have access roads. The zone does not have an anchor tenant, it is a mixed-use zone. Most the companies are in manufacturing. Most of the companies are servicing the local market although some entities stated that they were

exporting. There is no public transportation for the workers to get to the zone, it not near low-cost residential area. Workers commute long distances since there is no direct transport route to the zone. Zone does not have supporting amenities like restaurants, gas stations and others. Mandating companies to provide meals for their workers. The developer prioritizes the creation of the needed amenities. Lusaka South has entered the growth phase of the zone life cycle. Evidenced by the high number of expressions of interest, new leases annually, companies awaiting approval, companies constructing and companies interested in leasing land. To ensure the momentum of the growth is maintained more capital will need to be invested to develop the road end the infrastructure

Jiangxi zone is located 85 kilometers outside Lusaka along the Great North highway (T2). Great North highway connects Zambia to Tanzania and Zimbabwe. It's the longest highway in the country, connecting the major cities and towns within the country. Fortunately for the zone T2 is currently begin upgraded. The location is ideal because it's along the highway and the zone infrastructure has been well developed. Its strategically located since it is close to a low-cost residential area making it accessible for the workers and since it's along the main transport route it is also ideal for the companies that are either producing to service the local market or for export. Phase 1 has been completed which comprises of prebuilt factory shells and access roads. In the future the zone the zone will be connected to the railway line to facilitate more transportation options. Zambia still transports most of its products via road. Unfortunately, most of the road infrastructure in the country is not in good condition, increasing transportation. Alternative transport means like the railway will reduce the transport costs for the companies. Jiangxi will comprise of several sub zones like the agricultural zone that is anchored on the tobacco value chain. the light manufacturing section of this zone is anchored by the standard warehouses.

When the zones were setup there was no implementation plan or strategy put in place. The Zambia government expected that the fiscal incentives provided would be enough for the uptake of the zones. It did not factor in its role in providing off-site infrastructure to the zones. No allocation or financing was provided for the infrastructure. Zone programs tend to be capital intensive for government at the development stage of the zone. The government did not seem to be aware of its responsibility. The act regulating zones does not explicitly state the government's responsibility towards the zone developers. There needs to be an amendment off the ZDA Act clause that

specifically states the responsibilities of the government towards the zone developers. In an event government fails to provide the offsite infrastructure the developer can claim the expenditure at a later period. Or obtain some sort of tax relief that covers the amount. When the zones program was set up government especially the president or high-ranking government officials supported the project. Support for the zones has since reduced.

Zambian government could support zones like Chambishi in its copper smelting by mandating a certain percentage of copper mined within the country should be processed in the country. This could lead to more business in Chambishi but also could encourage growth in the copper beneficiation value chain. Zambia could use development banks that finance zone developers and operators. Government should also play an important role in getting more market information to zone operators. Zambia can integrate agro processing parks to the farm blocks program to encourage agro processing of produce. Zambia has a lot of fertile land that could be used to its advantage and to promote and improve value addition and development of SME's.

The law in Zambia dictates that zone operators own the land prior to applying for zone operators permit. This is limiting factors for private zone operators that are foreign or non-Zambian based. As they must first acquire the land prior to application the land allocation process is slow . To facilitate development of more zones there could be incentive of land purchase at discounted rates. Government or local government could earmark its land for lease to zone operators. This would make accessible or easier for operators to setup zones in the country.

Conclusions

Economic zones have been in Zambia since 2007 and currently there are 5 operational zones, and 4 others are still under plan. Most of the zones privately owned there's still only one public zone in the planned zones there is a zone that will be developed through a public private partnership. A trend is that zone developers are mining companies ZCCZ is owned by a mining company and Kalumbila is also owned by a mining company. Jiangxi is owned by a private SOE from China. The zones are in various stages of the life cycle Lusaka East and Jiangxi are at the incubation stage. Lusaka South is in the growth phase, Chambishi is maturing the zone has been operational force 17 years, its growth rate is starting to decline. Lack of policy consistency by the government by removal of incentives from the zones has also negatively affected the programs. It has reduced

the number of companies willing to be in the zone and some might have moved out of the zones. There seems to be not a close relationship between the ZDA, zone developers and the operators. There needs to be a mechanism that can facilitate dialogue to ensure that the incentives and the development of legislation is in line with what the zones require.

Recommendations

There should be dedicated agency that will be solely responsible for licensing, supervision and advocacy for SEZ in Zambia. The MFEZ regulator should report directly to office of President or Office of Vice-President. This will allow the agency to be able to coordinate better with other government agencies and ministries. This will reduce procedure delays in zone developer or operator applications. ZDA is responsible for the growth and development of the private sector in general. The multiplicity of its role makes it difficult for the agency to serve the interests of zones well. There needs to be ZDA functions are too broad, that is the country wants to expand the program and ensure success.

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Article II. Impact of Special Economic Zones On Labor Market Outcomes In Zambia

1) Introduction

In Zambia Special Economic Zones (SEZ) were introduced in 2006 as a vehicle to diversify economy and attract FDI. 'Experience in the developing world suggest that there is large employment and foreign exchange benefits to special economic zones,' Glick and Rouband 2006. Special economic zones have other benefits to developing countries. 'For the host country or economy generation of employment was noted as the prime source of benefits of development of SEZ's in a country's,' Jerkins et al 1998. Abundant low-cost labour makes developing countries ideal destination for zones. SEZ create jobs in two ways, first directly by the employment of people in companies within the zones. Secondly indirectly through jobs that offer services to the zones like construction workers, hotels, and other support services to the zones.

An overview of Zambia labour statistics shows 'in 2022, 76.3 percent of employed persons worked in the informal sector and 23.7 percent worked in the formal sector,' Zambia Statistical Agency 2022. The main employment challenge is not only job creation within the formal sector but also to reduction the number of the size of informal sector. Labour participation rate is low, 'in 2022 labour participation rate 31.5 %,' Zambia Statistical Agency 2022. More than 70 percent of working age population aren't working. Women are underrepresented in in formal job market, in 2022, '28.7 percent of formal sector workers were women and women are 42.8 percent of informal sector workers,' Zambia Statistical Agency 2022. A higher proportion of women in Zambia work in the informal sector.

'Women constitute more than 50 percent or more in some cases up to 90 percent of employment in special economic zones in developing countries,' Tejani 2011. When discussing workers within the SEZ's one cannot not mention employment of women as they tend to be majority of employees. There are several factors that explain the high level of employment in zones, gender pay gap, export led industrialization and others. Gender pay gap explains why women were preferred employees instead of men in SEZ's. Standing 1999, employers seeking to expand exports hired

women to lower labour costs in the face of severe international competition. Most women in developing countries work in the informal sector or unemployed. Without work experience and low educational attainment leave women with only option but to take up low-skilled jobs. Jobs within the zones allow women to enter the formal job market and the wages within the zone although lower the men's pay but are more than wages in the informal sector. Awareness of availability of cheap female workforce incentivizes companies to predominantly hire women.

Problem statement

Special economic zones have operating in Zambia since 2006. As of 2022 there were 5 zones operational in the country and few more planned. This paper seeks to understand how the zones have contributed to Zambian labour market. The main objective of the paper is to determine if zones have had an impact on job creation. How the working conditions of the jobs in the zone's comparison with the manufacturing jobs outside the zone? Special economic zones are known for having poor working conditions like excessive use of over time that is unpaid, poor health and safety conditions. In terms of working conditions, only two elements have been selected, namely working hours and freedom of association. Working hours are used to detect if workers participate in excessive overwork. If the overtime work is voluntary and if their workers are paid for the overtime. Freedom of association begin the workers' right to be member of a union or participate in union activity. It will also ascertain the zones contribution to women's employment in Zambia. The research questions are how have the zones contributed to national job creation? How the working conditions of the jobs in the zone's comparison with the manufacturing jobs outside the zone? If the zones created more jobs for women than external manufacturing sector?

Significance of research

This research will add to literature about special economic zones in Zambia. Previous studies on zones in African can be categorised into four broad categories, continental studies, regional studies, country specific studies and comparative studies between countries. Continental studies can be sub-divided into general, policy studies and geopolitical studies. General statues on zones in Africa includes Farole 2011, Woolfrey 2013, Zeng 2015, Rodrigues-Pose at el 2002 and Mugano 2021. Geopolitical mostly focus on China and zones on the continent. Geopolitical studies include Antonio and Ma 2015, Yejoo 2013, Alden and Alves 2018, Bratigum and Xiaoyang 2011.

China involvement in zones in Africa has been getting a lot of scholarly attention recently. Regional studies focus on different aspects of zones in one region (focus region is Southern Africa which Zambia is located) include Janch 2002, Makgetla 2021, Karambakuwa et al 2020, Phiri and Manchishi 2020 and Dube et al 2020. Two country comparative study, Xu and Wang 2020, Zambia and Ethiopia. Janch 2002 study focused on Southern Africa, with focus on Mozambique, South Africa, Namibia and Zimbabwe, it was focused on labour standards within the zones. Studies focusing on zones in Zambia include, Mwansa et al 2020. Studies focused on employment in special economic zones include Phiri and Manchishi 2020, Aggarwal. A. 2010. Mwansa et al 2020 is study on Lusaka South Multi-Facility Zone, found the zone has potential to attract investment and create jobs but more investments are required infrastructure to improve performance of zone. Karambakuwa et al 2020 discuss strategies for growth and employment creation in zones in Southern Africa.

Studies on job creation effects of SEZ range from, general, single country studies, zone specific studies and gendered job creation effects of zones. Gendered zone job creation studies include, Thapa and Chudasama 2022, Ngai 2004 discusses women employment in SEZ in Shenzhen. Galle 2023 deals with Indian zones creation for employment for women. Studies on job creation of zones Cizkowicz et al 2017, Waqar et al 2021, Kingombe and te Velde 2016, Sharma and Jat 2021 and Sopiana and Rahmini 2022. Harry 2016 focuses on job creation in Nigerian zones. Shah 2009, Jin 2019, Hiba et al 2021, Brussevich 2020, these studies focus on working conditions within the zones. This study is unique since it focusses on job creation effects of SEZ in Zambia, working condition within the zone and on the gendered aspect of zone job creation within the zones. This research will contribute to knowledge of job creation effects of zones in Zambia, as well as zones contributing to national employment and national manufacturing employment. It will also highlight SEZ contribution to women employment. In previous studies these elements have been addressed separately.

Literature review

Job creation Effects of SEZ

There are many different types of special economic zones, free trade zones, export processing zones and industrial parks. Special economic zones are geographically delimited areas, which is physically secured, and it has a single management and administrative unit and duty-free environment,' Zeng 2014. Special economic zones usually (SEZ) host different industries. 'Export Processing Zones (EPZ) are industrial estates that specialize in manufacturing for export,' Adediran 2013. EPZ comprise of single industries that are labor intensive. Free ports are separate custom areas from the host economy where goods are processed for transshipment, they are normally located near ports or airports. Industrial parks or technology parks, focus on high technology research and development. For this paper special economic zones will be used to refer to all the types of zones.

'For the host country or the economy generation of employment was noted as the prime source of benefits of development of SEZ's in a country's,' Jerkins et al 1998. Job creation is an important motivation for zone development in developing countries. Zones are used to absorb excess labor. 'Special economic zones employment effects have three channels, direct employment, indirect employment and employment of women,' Aggarwal 2007. Direct jobs are jobs created by companies operating within the zone. The ability of zones to absorb labor depends on the nature of the sectors in the zone labor intensive production tends to employ more people. FTZ tend to attract labor intensive companies which have potential to create significant numbers of jobs. SEZ attract labor- and capital-intensive industries they job creation can be significant. Technology parks tend to hire fewer workers since they hire highly skilled workers. Job creation potential of zones is dependent on size and level of occupancy.

'Worldwide an estimated 90-100 million have been directly employed in SEZ and free-zone programs,' UNCTAD 2019. The distribution of zones employees is varied based on regions. Asia is the host of most zones in the world and China contributions to zones is significant. 'In Africa 30 zones employed more than 380,000 employees,' UNCTAD 2021. Regionally zones employment might be insignificant but, in some countries, zone have created significant number of jobs. 'In 2002 top six countries SEZ intensity was Mauritius (18 percent), Hong-Kong (10 percent), Tunisia (9 percent), Lithuania (7 percent), Seychelles (6 percent), and Dominican Republic (6 percent),' Milberg and Amengual 2008. In the study intensity was calculated as SEZ employment as percentage of national employment. Average employment intensity from the study

was 3 percent. This study was conducted in 30 countries. ‘Madagascar from 1995 to 2004 zones job the rate of job creation was almost four times higher than in internal market,’ Cling et al 2007. Madagascar zones were creating jobs at faster rate than other private sector entities. ‘Zones that have been operating 5 or more years the zone in Asia has 10,500 employees while Latin America the median zone has just over 3500 employees, Jenkins et al 1998. ‘The number of jobs created in comparison to total labour force has been modest,’ Zeng 2021. ‘There are countries where zone development and resulting employment creation did not live up to expectations,’ Agarwal 2007. ‘Southern African zones job creation has been meager,’ Jauch 2002. Low job creation in zones is signal of zones inability to provide good infrastructure for companies to thrive. ‘Kenya spent millions of dollars on SEZ promotion but the first five years only 2,800 jobs were created,’ Rolfe et al 2004. Senegal established its first zone in 1974 and in 1999 the zone was shut down at the time of its demise 14 enterprises were active with 940 jobs,’ Mandani 1999. ‘Guatemala zones did not live up to expectations zones had 9 firms that employed 1400 workers in the late 1990s,’ Jenkins et al 1998. EPZ tend to have short life span as the low labor costs advantage erodes. Countries need to keep upgrading their zone programs.

Indirect jobs are secondary jobs created by service providers within the zone, construct jobs and other businesses linked to zone enterprises. Support services to zones include restaurants, transportation logistics among others. Provision for utilities to zones creates additional jobs. Construction of zone infrastructure and supporting infrastructure stimulates growth of construction sector. Indirect jobs are more challenging to track because many services zone entities require from outside the zone. Some studies track indirect jobs by number of new jobs in areas surrounding the zones. ‘In Madagascar the ratio of indirect to direct jobs created was one to four’ Razafindrakoto and Roubaud 1997. ‘SEZ in Korea direct contribution to employment is moderate but its impact to indirect employment is expected to increase substantially because of increase in subcontracting to local enterprises,’ Cling and Letilly 2001. Promoting zone linkages with local suppliers is important for indirect job creation. For developing countries where zone companies are exporting. Local suppliers in most instances don’t have the capacity to match order quantity and quantity. Supplier development initiatives are needed to assist local suppliers meet requirements. Multinational corporations normally have established supply chain from input so they might not consider using local suppliers. Limiting the ability of local suppliers to benefit from the zone.

‘Women were the unintended beneficiaries of export processing zone employment in Ireland and Puerto Rico’, Tejani 2010. Export led industrialization was meant to reduce unemployment in general not necessarily creating jobs for women. In Ireland and Puerto Rico, it was meant to reduce male unemployment ‘with the law requiring at least 75% of male employment in all new investment as a condition eventually dropped’, Caraway 2007. The zones focused-on labor intensive light manufacturing, attracting firm in textiles, footwear, and electronics. The high number of women working in the positions gave rise to notion that labor intensive light manufacturing is “women’s work”. Feminization of labor has been associated with a downgrading of status and pay of such professions as clerical work, nursing and teaching, ’Horton 1999. The success of the early zones was attributed to work efficiency of women and cost effectiveness of their labor. Which led to women begin targeted for employment in subsequent zones programs. Gender stereotypes attributed to women, ‘dexterity, docility and submissiveness traits employers consider desirable for labor intensive work’ Elson and Pearson 1981. The jobs in these industries require low skill and education making them accessible to women. These types of beliefs that women were better suited for these types of jobs led to women hired in preference to men. These jobs differed from other blue-collar jobs where men are considered to have natural advantage because they are physically demanding. Careers and jobs tend to be mainly based on gender, especially within the blue-collar sector. ‘Gender typing of jobs (masculine or feminine) differentiating their abilities, role of work on basis of gender during recruitment and promotion which devalue women and create a social hierarchy in the workplace. Women are considered naturally suited for the jobs they perform.

‘New job openings for women have been dependent on expansion of production for export and formal manufacturing employment in developing countries, ‘Jokes 1999. FDI in this sector is efficiency seeking, comparative advantage in low labor cost is attracts companies. Firms tend to target countries with surplus of cheap labor and women mostly are cheaper since the job are their first entry in the formal job market. Employers seeking to expand exports hired women to lower labor costs in the face of severe international competition, ‘Standing 1999. Low female wages have spurred investment and exports by lowering unit labor costs and providing foreign exchange to purchase capital and intermediate goods which raise productivity and growth rates,’ Seguino 200a. ‘The gender wage gap to be particularly relevant to rapid export and GDP growth in East Asian countries from the period 1975-1997’ Serguero 2000a. Women wages are low not only

because of the low skills associated with the job but because the women don't have bargaining power due to social factors. 'Patriarchal norms that view women as secondary income earners and vulnerable nature of some women (single breadwinners). These include the cultural reasons for gender in the workplace, which tend to be context specific. 'Limited job opportunities for women combined with urgent family needs often force women to work in global industries even though the employment is on a temporary basis,' Hossain et al 2013. In most developing countries women perform unpaid work within the home. Jobs in SEZ offer them a chance to participate in the formal sector. 'High proportion of female labor in special economic zones in Republic of Korea, Malaysia, Mauritius, Philippines and Sri Lanka in the late 1980s and early 1990s' Kusago and Tzannatos 1998.

As the zone programs mature, wages of workers rise even those of women. 'Gender pay inequality is positively correlated with the comparative advantage in labor intensive production or countries with higher wage pay gaps have high exports in such goods', Busse and Spielmon 2006, Mitra-Khan 2007. The relationship between gender wage gap inequality and growth for 20 developing countries was non-linear during the early ages of export orientation (labor intensive) industrialization wage inequality is positively related but later in later stages it may hurt growth. As wages of women rise within the zones their participation decreases as men replace them. The reduction in the pay gap for women in zones at maturity isn't a good thing since this results in less women working within the zones. If women were hired in zones because of their specific skill set, their jobs would not reduce when the companies upgraded. But the fact that they are replaced by men for the same jobs when they are better paying signals the main problem. These types of jobs are referred to as "women's work" to devalue them since companies' categories them as low skill. 'To reframe them as men's work would be to define them as underpaid,' Salzinger 2003.

'Women entry into export-oriented manufacturing is a double-edged sword, Tenjani 2010. Women benefit from formal wage employment. Gaining financial independence and autonomy. The jobs they work are usually low paid, with tough working conditions and limited opportunity for advancement. There are other social factors full time coupled with full time work can also be demanding. 'Wage and non-wage discrimination of women continue in SEZ,' ILO 2008. This discrimination is evident in recruitment, selection and during employment. For instance, 'Mexican

women were required to take pregnancy tests before recruitment a practice eventually prohibited by law and is still done in the Dominican Republic,' ICFTU 2004. Women were seen as a good hire only if they are not pregnant, since pregnancy they will be requirements for workplace accommodations and even maternity leave. Which are expensive for companies and companies are not willing to undertake but are willing to wouldn't invade women's privacy by mandating pregnancy test. Maternity leave benefits depend on the laws of the country. In contrast women's pregnancy seen as a financial liability. 'Women are made to resign after becoming pregnant and have not been allowed to return to subsequently,' ICFTU 2004. When women became aware of this that being pregnant at work can cost them their jobs those who are desperate will try to conceal their pregnancy while working. Creating a risk for the women and they're unborn child especially if the woman works in high stress environment or perform jobs that require them to be standing for long periods of time.

Feminization or flexibility involves is a twofold process involving the increased labor participation of women and an increase in non-standardized jobs typically associated with women such as part time, temporary, poorly paid and insecure jobs,' Standing 1999. Where "Flexible labor", refers to temporary employment patterns that are constituted by part-time and casual workers' Hoosain at el 2013. The trend of flexibility is aided by modern production methods like global value chains and sub-contraction. With advancement of technological innovations there is a global trend to reduce reliance on full wage salary workers who earn fixed wages and benefits,' Islam 2008. Traditionally a firm producing a product would make most of the components in-house. The advancement of transportation and technology allow firms to have components made cheaply by suppliers in developing countries. The main factory will only assemble the components. 'Firms subcontracts instead of intra-firm trade when expected cost saving from former when expected cost savings from the former exceeds rents from internalization which makes possible when intermediate product markets are or can be highly competitive', Milberg 2004. The suppliers are mostly companies in zone produce standardized component, competing with rivals. Standardization of the components only provides the company with labor as the only variable cost. Labor cost is reduced by maintaining small number of permanent workers and majority of flexible staff. The temporary nature of flexible work contracts has less cost implication than permanent job

contracts, inducing savings for the company. To maintain a low-cost advantage zone company, adopt flexible contracts for their workers. Reducing the economic benefits and job stability for workers. To survive in a competitive market and increase profits, companies reduce their payroll by reducing the number of full-time staff in their pay roll. The short fall is the augmented by seasonal staff who just get paid wages without extra benefits.

SEZ's also help in capital formation at the firm level whereby the host country labor acquires skills from working within the firm through training and learning by doing. The foreign direct investment also necessitates the advent of new technology in the country leading to the introduction of new technology and upgrading of skills. These skills are transferred to the rest of the economy. They also contribute to technology and skills sharing through the transfusion of technology and workers from the zones into the local economy. 'Generation of employment is one of the most important goals behind the development of SEZ,' Bakish 2014.

'Export processing zones affect labor standards by promoting race to the bottom in terms of wages and labor standards' Cling, Razafindrakoto, & Roubaud, (2007). This is because most companies when they look for investment destinations, they look for opportunities to save costs. Countries with high number of unemployed people will use SEZ to attract investors. Motivating countries to depress wages and minimum wages in their countries to make them competitive. Studies on wages normally compare wages within the zone with the rest of the country and some of these studies are sector specific. 'Poor image of SEZ in terms of labor issues stems mainly from the fact that working conditions generally are deemed to be harder than other economic sectors and SEZ's are often not accused of violating core labor standards,' ICFTU (2003).and ILO 2003.

Excessive use of overtime work is one of the major problems seen within special economic zones. Companies that are part of the global value chain there's an expectation for them to experience instances when there is a peak in demand which would require the organization to use overtime. The problem arises when overtime work is a regular occurrence. 'Garment factories display the greatest number of violations with respect to hours of work overtime compensation and wages to noncompliance on health and safety codes,' Rogers and Beld 2006. When wages are low workers are more likely to take extra hours to increase their pay. In most instances overtime work isn't voluntary workers are mandated to work the hours the company assigns them. Employees are negatively affected by the consequences of overtime work. When there are a lot of production

errors or failure or reject or faulty products. Some of which are caused by human error due to exhaustion and their pay is reduced to cover the losses that the company incurred. Losses of which although are caused by human error it's the company's fault since their workers are tired. 'In China zone workers were working 10-to-12-hour shifts that could go up to 16 hours during peak periods,' ILO 1998. 'In some cases, workers were obliged to work beyond normal shift in order to fill quota,' Agrawal 2007. 'In China average working hours vary from 54 to 77 hours per week ,' Kusago and Tzannatos 1998. Labor exploitation, especially overwork in special economic zones it's more of an industry practice than a zone practice. Excessive use of overtime is found in seasonal labor-intensive industries. zones tend to amplify this practice as many companies are together in one place and have high production value volumes. Working conditions in the zone reflect nation-wide practice,' Agarwal 2007. 'ILO 2017. Zones have instances of unpaid overtime work, lack of social security. 'Working conditions and environmental impacts tend to with general conditions of surrounding economy or specific industry within the zone,' UNCTAD 2019.

Problems persist in zones in the protection of fundamental principles and rights at work, particular freedom of association and collective bargaining.' Restrictions on union rights are widespread in various countries examples are Bangladesh, Namibia, Pakistan, Nigeria, Sri Lanka, The Philippines, Turkey and India, Gopalakrishnan 2007. 'Nigerian free zone law prohibits strikes and lockouts for a period of 10 years after company begins operation in zone, further employer-employee disputes cannot be handled by trade unions rather by authorities that manage zones,' EPZ Act article 4. In Kenya until 2004 'workers in EPZ were prohibited from joining unions or engaging in collective bargaining,' Farole 2011. Another way to attract investors to zones the government and zone operators use this to relax labor laws. This can come in several forms like restriction of unionization of workers, outlawing strikes, setting low wages and others. These types of regulations place workers at a disadvantage since they will have to lobby directly with their employers. But if they had the backing on the union then they would be more successful. But this can adversely impact the workers, 'many factors allow for bad practices often the law is to blame' Cotula 2018. How SEZ regime is structured is an important bearing on labor outcome for instance, if labor issues pertaining to zones and heard by the Ministry of Labor but the SEZ authority. The SEZ authority the main priority is to the investor, disputes will be settled in the

favor of the company not of the employee. But had the ministry of Labor been in charge there would be more in favor of the employees but worse if the labor tribunals are headed by the SEZ and not the Labor Court, 'Cotula 2018. 'SEZ workers who are not unionized either do not like unions or fear that unions will bring problems with management,' Ver Beek 2001. When comparing unionization within the zone or outside zones for Cling et al 2005 and Glick and Roubaund 2006 for Madagascar found more unionization in zones than private sector outside. 'In Madagascar more unionisation in SEZ than in private sector outside,' Glick and Roubaund 2006. 'Excluding cases where unitisation is prohibited in SEZ its hard to conclude whether restriction on union rights can be attributed to EPZ or general failure of domestic institutions,' Zeng 2021.

Zambia economic and political history

Zambia attained its independence in 1964, before that it was a British colony. The main economic activity was copper mining. As landlocked country with only mineral resource the colonial government created economy based on copper mining and imported consumer goods. Creating an economy heavily dependent on imports of consumer goods from Zimbabwe and South Africa. As the first country in Southern Africa to gain independence it aligned itself with liberation movements in the region. Its location allowed the movements host their headquarters there and use it as an access route to the rest of Africa. 'Zambia was hosting several liberation movements from the region within the region African National Congress (ANC), Pan African Congress (PAC) of South Africa, Zimbabwe African People Union (ZANU) and Namibia's Southwest People Organization (SWAPO)' Matambo and Owengbuchulam (2021). After attaining independence Zambia became democracy with market economy. In 1964 mining 'accounted for about 50 percent of GDP and 95 percent of export revenue,' UNDP 2018. Planned economy was introduced in 1968. Planned economy was identified as the best way to diversify the economy. Which would be achieved through 'import substitution through manufacturing of intermedia goods and consumer goods, development of linkages in the economy and production of surplus for export,' UNDP 2016. Import substitution and other development strategies were funded through the nationalization of mines.

'Ninety-five percent of Zambian exports were transported through Rhodesia (now Zimbabwe)' Jyjang (2020). Despite its reliance for Rhodesia for its export, the Zambia government maintained

supported ZANU a liberation movement. The 1980 Unilateral Declaration of Independence in Zimbabwe led to boarder closure, between Zambia and Zimbabwe. Its alliance with freedom movements presented a challenge for the country in terms of export copper which was main source of revenue. Zambia couldn't use South Africa as alternative route since it was hosting South African liberation movements. Zambia had to find an alternative route for its exports and substitute consumer goods it had been importing from both countries. An alternative was to export its copper through Tanzania but there was no rail line connecting both countries. China provided Zambia and Tanzania a loan to build the railroad (TAZARA). 'The US dollar 196.6 million loan was signed in 1968' Mwanawina (2008).

The drop in copper prices of the 1970s led to the Zambian government supplementing its deficit by borrowing. The Zambian government borrowed heavily against future copper sales. 'In 1970's industry succeeded due to government ability fund them through coper mining,' Mudenda 2009. When copper prices dropped government increased borrowing to fund investment in public enterprise and consumption. Borrowing was undertaken with the hope that copper prices would rise in the future. Manufacturing was the second employer after services in the formal sector employment rose from 9 percent in 1964 to 14 percent in 1990,' Mudenda 2009. High employment was paired with low productivity because, 'social and political objectives of industry overtook the profit objectives allowing for overstaffing of parastates,' Seshamina 1997. At first industrial development was meant to compliment private sector and address market failure. But government used the strategy to create industries but failed to create linkages to the local market. Therefore, industry required a lot of foreign exchange to keep afloat since most of the inputs were imported. Industry was encouraged to produce solely for the local market exporting was discouraged through tariffs. While impots of similar products were also charged tariffs insulating industry from competition. Had parastatals been able to export some of their production they would have been ablet maintain forex to buy inputs.

As the copper prices continued to decline the debt of the country was increasing. In the 1980s, the country had unsustainable debt, necessitating that the Zambian government turned to the IMF and the World Bank for loans. Structural adjustment programs were put in place as precondition for loans. Austerity measures put in place to reduce deficit resulted in reduction in social spending. Removal of subsidies for state owned organizations led to massive job losses. The structural

adjustment programs had negative results leading to food shortages and riots. The ruling party had changed political system to one-party state in 1975 as means reduce opposition. The lack of political alternatives and adverse economic conditions, led to frustration with the structural adjustment programs and the prevailing political system. Which led to elections of 1991 these were multiparty elections in these elections. Kenneth Kaunda's UNIP lost the election to the Movement for Multi-Party Democracy (MMD). Zambia changed from a one-party with socialist development system to a multi-party democracy with liberal economy. The new government in 1990 removed forex controls, liberalised trade, removed quality restrictions on imports and exports, reduction of tariffs, and privatisation of SOE. By the 1990's most of the parastatals were operating under capacity and were dependant on government funding. Which led to privatisation of parastatals under the structural adjustment programs. Industrial development of the 70's and 80's was result of government funding of SOE which was not sustainable. But as the economy transitioned into market economy local businesses couldn't take over existing industries. Cost of importing most consumer goods was cheaper than producing them locally discouraging development of local businesses.

Overview of Zambia Labour Market

'Zambia employment challenge is about both lack of jobs and poor-quality jobs' ZIPAR 2018. The labour market is characterised by high informality as shown in Table 1 below. Table 1 shows an overview of the Zambia labour market for the period 2019-2022. From 2020 to 2022 more than 70 percent of employed people were working in the informal sector. Formal sector employees were almost 24 percent in 2022, and 31.4 percent in 2019, the highest over the 4 year period. The labour force participation rate over the four-year period ranged between 35 percent and 36 percent. This low participation rate is explained by the high number of people outside the labour force. People outside the labour force include potential labour force (active job seekers or persons available to work), discouraged job seekers, people in school or training, person undertaking family responsibility, own use farmers and fishermen. In 2019 64.7 percent of working age people were outside the labour market, 65 percent in 2020, and 63.9 percent in 2022. 'Forty-eight percent of the people outside the labour force were engaged in family responsibility, 27 percent were job seekers and 24 percent were engaged in education or training,' Zambia Statistical Agency 2022.

Table 7 Categorization of Working Age Population

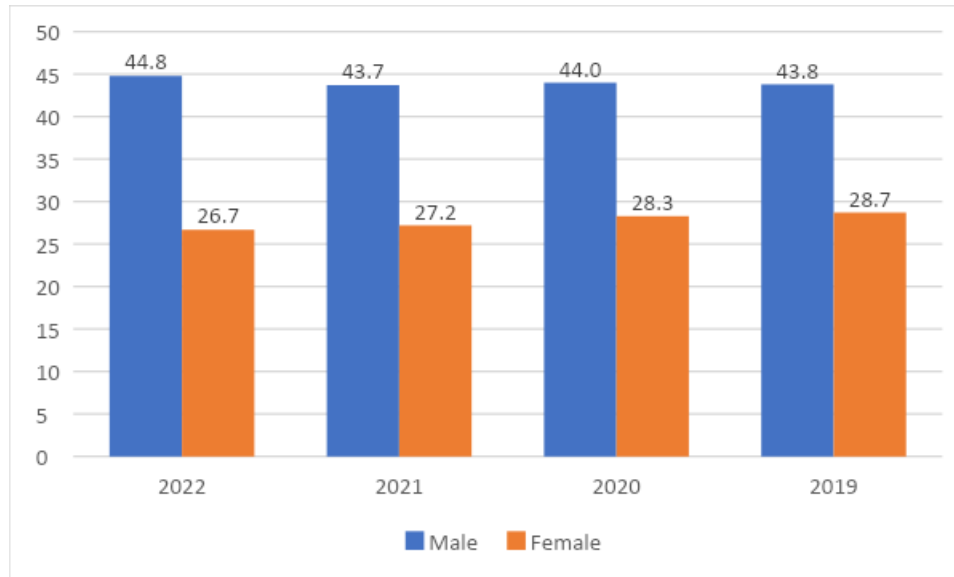
	2022	2021	2020	2019
Estimated total population	19,610,769	18,400,556	17,885,422	17,381,166
working age population	10,377,385	10,049,191	9,905,071	9,706,101
Labour force	3,746,685	3,615,507	3,465,526	3,423,486
Employed	3,273,123	3,164,748	2,988,379	2,995,103
Outside the labour force	63.9 %	64 %	65 %	64.7 %
Employment to population ratio	31.5	31.5	30.2	30.9
Labour force participation rate	36.1	36	35.0	35.3
formal	23.7	26.8	26.2	31.4
Informal	76.3	73.2	73.8	68.6
Unemployed percentage	12.6	12.5	13.8	12.5
Combined Rate of unemployment and potential labour force	41.1	38.8	37.3	41.4

Source Zambia Statistical Agency 2022,2021,2020 and 2019

Zambia has experienced a decline the labour participation rate, ‘labour participation rate between 2008-2014, ‘it was 74.5 percent in 2008 and 77.7 in 2014,’Zambia Central Statists Office 2018. The reason for this was in the years 2000-2014 fewer of working age population were outside the labour force. High level informality in the labour market indicates the low quality of the jobs within the country. Jobs in the informal market have low wages, don’t provide social security and other benefits. Workers in the informal sector, ‘lack employment benefits, social and legal protection, long working hours with low earnings and exposure to inadequate and unsafe working conditions, ILO 2016. According to ILO 2017, the main challenges of informality in Zambian labour market are employees cannot afford health care service when they are sick or when they encounter accidents at work. Sick employees still go to work because they don’t have paid sick leave. Work in the informal sector creates uncertainty since there are no contracts or work is on temporary basis. The other issue in the informal sector is low wages, therefore they do not help improve

workers standard of living. The country needs create more jobs within the formal sector and at the same time improve the quality of exiting jobs in the informal sector.

Figure 1 Labour Force Participation By Gender



Source Zambia Statistical Agency 2019, 2020,2021,2022

Figure 1 compares the participation rates of men and women. In 2022 women's participation rate was 28.7 percent while men's 43.8 percent. Zambia labour statistics shows that a picture of women not actively participating in the labour force and paid employment. This can be attributed to low educational attainment of women and cultural norm that expect women to work within the home. 'In 2022 women were 85.9 percent of people outside the labour market due to family responsibility compared to 14.1 percent of men and they were 55.8 percent agriculture and fishing for own use,' Zambia Statistical Agency 2022. Zambian women are represented in higher proportion outside the labour market. When comparing Zambia labour participation rates to Sub-Sahara Africa as shown in Table 2, male participation in Zambia is low compared to 44.8 compared to 73 Sub-Sahara. Women in Sub-Sahara participated in labour market 63 percent compared to 26.7 percent.

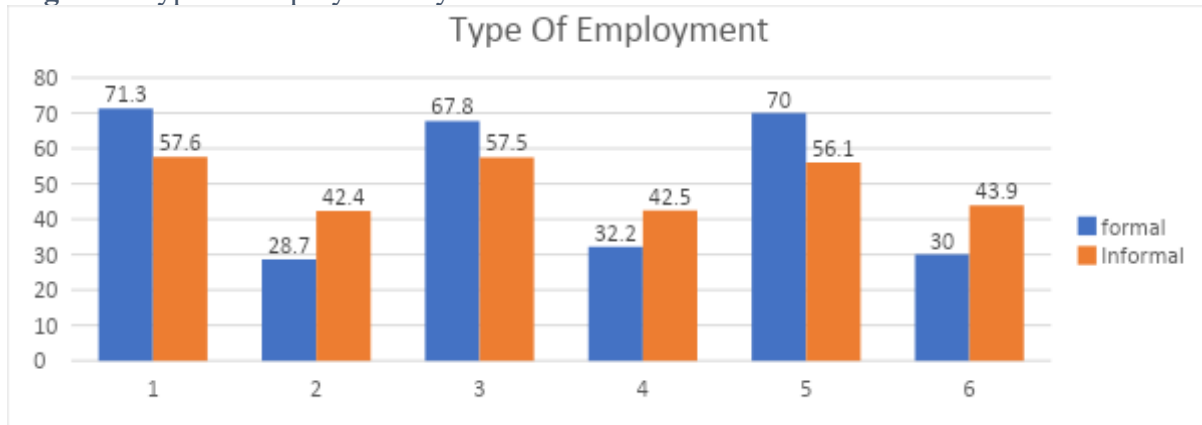
Table 8 Labor Participation Rate International

Labour Participation Rate by Gender Comparison 2019	Sub-Sahara			Lower Middle-Income Country
	Zambia	Africa	World	
Male	44.8	73	74	76
Female	26.7	63	47	34
Overall	35	68	61	55

World Bank Group 2023

Figure 2 shows of breakdown of employed people by formal and informal sector. Women comprised of 28.7 percent of formally employed people compared to 71.3 percent of men 2021. Most women work in the informal sector, female participation in informal sector is 42.4 percent versus 57.6 percent of males in 2021. The disparity between men and women in formal employment is very high with almost 40 percent difference in 2021, but the difference was the same for 2020 and 2019. This can be attributed to two factors; educational attainment most women do not work in the in the formal sector because they do not qualify. Employment opportunities in the formal sector are determined by education level, women’s low education participation is result of societal norm of women begin expected to have careers, so family invest more in educating boys. The situation in the labour market did change much in 2020 men were 60 percent of the working population while women were 30.7 percent Zambia Statistical Agency 2020.

Figure 2 Type of Employment by Gender



Source Zambia Statistical Agency 2019,2020 and 2021

Table 9

Employment

By sector	2022		2021		2020		2019	
	formal	Informal	formal	Informal	formal	Informal	formal	Informal
Wholesale, retail	6.1	93.9	15.1	84.9	6.2	93.8	20.2	79.8
Agriculture, forestry and fishery	10.1	89.9	10.8	89.2	12.6	87.4	19.2	80.8
Manufacturing	28.6	71.4	25.6	74.4	23.1	76.9	34.7	65.3
Minning and quarry	65	35	80.5	19.5	69.3	30.7	65.2	34.8

Source LSF 2019,2020,2021 and 2022

Table 3 shows the different sector by the level of informally and formality within them. Interestingly the wholesale and retail sector and manufacturing in Zambia have high level of informality. Formal sector jobs in establishments registered with licensing or tax authority. Informal jobs are job in unregistered enterprises. Almost 94 percent of employed people in

wholesale and retail sector worked in the informal sector whereas only 6.1 percent are in the formal sector in 2022. In 2019 20 percent of wholesale and retail workers were in the formal sector but the informal sector has consistently had the highest number of workers. Manufacturing from 2020 to 2022 more than 70 percent of the workers were in the informal sector. There was an 11 percent decline in formal manufacturing employment between 2019 and 2020 which could be attributed to COVID 19 and economic contraction in that period. Formal employment manufacturing employment has been rising since 2020 although at a small rate. These figures are rather disappointing because for sector like wholesale/retail and manufacturing the expectation is that they should create jobs within the formal sector. But most of manufacturing and wholesale business operate as unregistered business entities that do not offer social security to their staff. Zambia has scarcity of skilled manpower, due to poor educational outcomes. ‘Zambia has low capital development due to low access to higher and tertiary education’ (Youth Challenges 2015.)

Table 10

Employment by Sector and Gender

	2022		2021		2020		2019	
	male	female	male	female	male	female	male	female
<i>Wholesale, retail</i>	42.9	57.1	43.6	56.4	55.6	44	44.7	55.3
<i>Agriculture, forestry and fishery</i>	67.3	32.7	64	36	64.5	35.5	64.8	35.2
<i>Manufacturing</i>	72.2	27.8	74.6	25.4	70.6	29.4	75.5	24.5
<i>Minning and quarry</i>	93.1	6.9	90.4	9.6	92.2	7.8	85.7	14.3

Compiled from Zambia Statistical Agency 2019, 2020, 2021, and 2022

Table 4 provides summary of sectoral employment by gender. Wholesale/retail is the sector that employs that highest number of women. Women were 57.1 percent of workers in 2022, since 2019 women were more than 50 employees. Manufacturing women were 27.8 percent employed people compared 72.2 percent of men. High number of men employed in manufacturing is explained by

the composition of the manufacturing industry in Zambia. The major components of manufacturing are food beverage and tobacco, chemical rubber and plastic, non-metal mineral products, basic metal products, fabricated metal products. These are capital intensive and require a certain level of skilled workers.

Methodology

Data sources and research methods

This paper is based on field work conducted in Zambia from November 2021 until March 2022. The employee questionnaire was administered in Lusaka, at the time of data collection there were only 2 zones operating in Lusaka. Of the zones in Zambia, two zone in Lusaka were solely used to collect information on the workers. Employee interviews were restricted to Lusaka based on the limited budget of the researcher since research assistants were utilized in interviewing the workers. Research assistants were used because of language barrier, an initial sample interview conducted on the employees by the researcher it became evident that local language skills were necessary. Another reason was the workers seemed to be distrustful of the researchers since she was foreign. Location was chosen based on the proximity of zones to researcher host institution University of Zambia which is in Lusaka. Questionnaires were administered to 146 workers in two of the zones in Lusaka. The 146 employees interviewed were from eight companies, some of the companies allowed the research only to interview management but did not provide access to their production workers. Some companies were weary of researchers or journalists having access to their employees citing previous experience where such information was used as a smear campaign. Three of the eight companies did not allow the researcher to speak to their workers. The zones are located outside the city accessing the zones is a challenge because there is no direct transportation to the zones. Two companies did not give access to their workers and do not provide transportation for their staff. A bus was hired that would transport the workers to and from work in exchange for them answering the questionnaire. This allowed the workers space to speak freely since they were not on company premises and assisted them in arriving at work on time. The other three companies gave their research team access to their workers, so the staff were interviewed onsite at the companies. Two companies didn't have production workers, they were on production break. Companies were at liberty to select the production workers to participate in the study. Most

of the staff interviewed on site did not indicate any apprehension to be interviewed or fear of retaliation from management.

Data for the paper was collected through questionnaires to the production workers and questionnaires to HR managers within the respective companies. Along with secondary information that is publicly available, and information provided zones. The interviews with the HR practitioners were done through a structured questionnaire. Initial contact with the companies was to conduct the interview with the HR managers. After which a request was made to distribute the questionnaire to production workers. Companies were provided with a copy of the questionnaire that would be administered to the production worker. The goal was to determine the selection and recruiting procedures of the companies and to determine the working conditions based on the work production workers opinion. Two questionnaires were used to ensure that what management stated was what was in line with what the work has experienced. Management interviews were conducted from November 2021 to January 2022. Staff interviews were conducted from February 2022 to March 2022. During the period the researcher collected additional documents (annual reports brochures) from the companies, and authorities in Zambia. Ethical clearance was obtained to conduct the study through the University of Zambia. Data collection resumed after the clearance had been obtained. The researcher used informed consent protocols and opening statements explaining the purpose and the use of the study the participants. Production workers who were interviewed at work signed and informed consent form, the workers who were interviewed offsite selected an agree button on the tablets that were used to interview them. The names of the participants and the employing companies were not mentioned in the study. Data was coded to provide anonymity to both the workers and the company the same ethical procedures and considerations were also used in the HR managers.

The employee questionnaire had 5 section, first sections asked collected demographic information: age, gender level of education, marital status and work history. The second section asked about working condition, number of hours worked, overtime work and overtime payments. The third sectioned asked questions on workers' rights and there was women section, asking specific issues like maternity leave, pregnancy accommodation and harassment. The employer questionnaire asked about contact types availed to staff, working hours compensation and working conditions.

The HR questionnaire had 5 sections. The first section had details about company including company industry, role of interview in the company and their gender. Second section was about recruitment, type of staff hired (skilled or unskilled), ease of filling positions, pre-employment screening techniques, recruitment of persons with disabilities. Which demographic is actively recruited for instance young people, recent graduates among others. How vacancies are filled for different positions like managers, technical jobs and entry-level vacancies. HR was also asked to provide staffing figures for the years 2017-2021. Figures were further categorized by gender, educational attainment, full-time, seasonal. Working hours of staff based on job categories and forecast of staffing movements for the next year. Third section was about pay and benefits, detailing overtime payments, contract types, insurance coverage, if company had conducted gender pay gap survey. Average wages by job categories, employment benefits provided, and which type of staff qualified for benefits. Leave days, sick leave days and how often salaries are reviewed. Performance appraisals and how they are conducted. Fourth section was about company policies, if companies have policies workplace bullying, harassment, accommodations for pregnant women. How incidents of bullying or harassment are reported and resolved. Fifth section was on training, if training is provided, types of training provided, rationale for providing training. How the training is funded other staff development related questions. Company's stance on unionisation, presence of gender-focused policies.

Sampling frame

Convenience sampling was used to select companies for the employee survey. There were 90 companies operational in all the 5 zones in November 2021. The confidence level was 95 % and margin of error was 5% sample was 74 companies. Unfortunately, the zones in Lusaka had total of 31 operational, most companies were in Chambishi and only 8 companies were willing to participate. The 8 companies had 1,031 employees confidence level was 95% and margin of error was 5 percent sample was 281. The sample companies included 3 companies that did not have staff. But the actual employee response was 146. Questionnaires was administered to 146 workers in two of the zones in Lusaka. The interviews with the HR practitioners were done through a structured questionnaire. All 8 companies participated in HR interviews. The Jiangxi zones was still under construction the companies in the zone were still under construction. One zone did not provide researcher access to interview companies within the zone but provided employment related information for selection of companies within the zone.

Data protection

Once all the interviews and questionnaires were completed a codebook was created. Each zone was given a numerical code to anonymise them. The companies were given special codes that identified them and zone they are located. The employee questionnaire didn't require an anonymisation since they didn't contain any personal information. The employee questionnaire was administered via table which only the research assistants and principal investigator had access to. The form automatically updated on Google sheet which only the principal investigator had access to.

COVID measures

I had to test before conducting site visits, the visits were conducted will adhering to COVID 2019 regulations. The researcher and research assistants wore face masks during interviews.

Limitations of some of study

The research did not able track labour redundancies and labour turn over within companies. Information pertaining redundancies was not provided in human resource manager questionnaires that were distributed. Zone developers interview and questionnaire didn't solicit record of staff turnover within zones. Health safety and environmental protection were not included. Information pertaining to work related injuries, accidents, disease and fatalities was not collected. Zambia does not have comprehensive system to track work related injuries within its health system. Research was not able to obtain information from alternative sources.

Findings

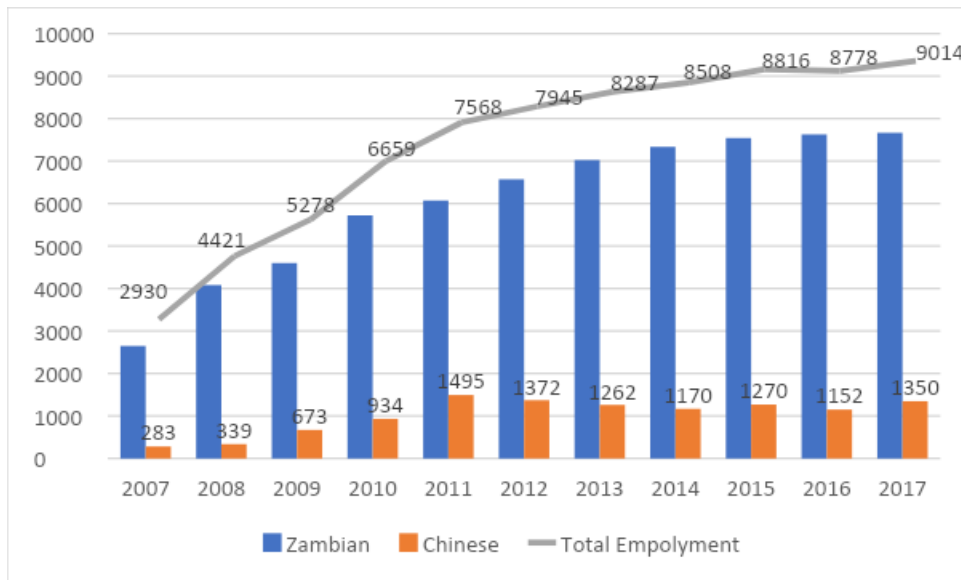
Zambia was the first African country to setup special economic zone under the Forum Of China Africa Corporation. In 2006 6 SEZs were identified by the Chinese Ministry of Finance for funding in Africa, one in Algeria, one in Egypt one in Ethiopia, one in Zambia and two in Nigeria. Because of the changes in laws in Algeria, the SEZs project has since been abandoned. Zambia special economic zones programs were initiated by Japan through its Japan International Corporation Agency (JICA). JICA helped the Zambia government create masters plan for Lusaka South Zone. Special economic zones are referred to as multi-facility economic zones (MFEZ) in Zambia.

MFEZ were designed to be as hybrid zones with features of export processing zones, free trade zones and industrial parks. They were to cater for local market and export-market and increase manufacturing output.

Chambishi and Lusaka East MFEZ Employment findings

This section was compiled using secondary data from company reports and other publicly available information. The researcher didn't conduct company visits or employees' interviews in Chambishi MFEZ. But was given relevant information for a selection of the companies. The first zone in Zambia set-up was the Zambia-China Economic and Trade Cooperation Zone (ZCCZ) in Chambishi operated by the China Nonferrous Metals Mining Group (CNMC), it started operating in 2007. Chambishi MFEZ is anchored around the copper smelter which is in the same zone. Chambishi MFEZ main industry are copper processing, metallurgy, electronic and light manufacturing. ZCCZ comprises of two zones the second is the Lusaka East MFEZ which focus is light manufacturing. The Chambishi zone was created as a supporting industry for Chambishi Main mine. Which was the first copper mine to be acquired by CNMC, the holding company owns the zone. The location of the zone is strategically positioned across the road from the copper mines. Chambishi Main mine is owned by NFC Africa (NFCA) which is a subsidiary of China Non-Ferrous Metal Mining Group (CNMC). When the Chambishi Main mine purchased in 1998 it was not operational and its CNMC first mining operation in Zambia. Since 1998 CNMC has expanded its mining operations to include Chambishi West Mine and Chambishi Southeast Mine. There are currently 3 mines operating next to the zone. CNMC is involved in copper mining, mineral processing, hydro smelting and pyro metallurgical smelting. CNMC group has other mines in Zambia and Democratic Republic of Congo. CNMC group consists of four companies NFCA, Chambishi Copper Smelter Limited (CCS), Sino-Metal Leach Zambia (SML) and Luanshya. NFCA and Lunashya own the mines, NFCA owns the 3 mines in Chambishi and processing plant. NFCA is owned by CNMC 85% and ZCCM-IH 15 %. Zambia Consolidated Copper Mines Investments Holdings Plc (ZCCM-IH) is Zambian government enterprise that owns the copper mines of the government. Sino-Metal Leach Zambia (SML) is another company which is part of the CNMC group it operates. Mwambashi mine and Chambishi Leach Plant. SML has two subsidiary companies which are mine and leach plant in DRC.

Figure 3 ZCCZ Employment 2007-2017



Source ZCCZ

Figure 3 shows the employment statistics of Chambishi and Lusaka East zone since 2007 when it started until 2017. The zones host several other CNMC subsidiaries across different sectors. Its challenging to establish the actual number of each subsidiary contributing to employment figures. ZCCZ as an entity does not publish its annual reports and its operations are not included in CNMC Group reports. Chambishi and Lusaka East zone figures are combined in reporting as they are treated as one entity. CNMC does not separate its staff figures by country, the Zambia and DRC staff are combined, it was difficult to ascertain CNMC contribution to figures stated above. The staffing figures are only separated by local and foreign. The staffing of each company within group isn't reported separately, it was only done for one report in 2016. The researcher is dissecting figures provided based on zone history over the stated period. The Leach Plant was completed in 2006, its started producing copper cathodes 2006. The staff figures of 2006 were of the mine, constructions companies and leach plant. In 2007 the zone was still under construction, and Chambishi Main Mine had been in operation for 3 years. Most employees in 2007 were employed in the construction of the zone, Leach Plant and Chambishi Main Mine. Construction on Chambishi Smelter began in 2007. The increase in staff of 2008 could be attributed to SML commencement of operation. The anchor tenant of the zone Chambishi Copper Smelter Limited (CCS) is also a subsidiary of CNMC, its smelting plant for the mines in the complex. CCS is pyro metallurgical smelter. The plant it started its operations in 2009, its operation increased employees

within the zone. Prior to 2009 the copper mined in the complex was sold unprocessed. In 2009 CSS began to process copper from the mines in the complex. Chambishi West mine started production in 2010, increasing the production of smelter and processing plant in the zone adding to employees in the zone. At end of 2010 construction began on Chambishi Southeast Mine. In 2010 Chambishi smelter underwent expansion to increase capacity, increasing contrition jobs on site. Lusaka East zone was declared and started construction in 2010. The 2010 employment included construction workers for Lusaka East zone, construction workers for smelter expansion and staff of the smelter. 2011 Lusaka East became operational adding to the employment figures. In 2014 CCS plant expansion was completed. Chambishi Southeast Mine started operation in 2016. The bulk of jobs within this zone are from the from mines, processing plants and other support services. To better understand the employment figures, the characteristics of job within the ZCCZ zone. Table 5 shows details of selection of companies.

Table 11 Employment Figures of 5 ZCCZ Companies 2018-2020

	2018	2019	2020
Total employees	4489	3197	2949
Unskilled employees	3087	2062	2062
Skilled employees	1411	1135	887
Total employees local	4013	2773	2559
Total employee non-local	476	424	390
Total employees Male	4379	3090	2844
Total employees Female	110	210	105

Source ZCCZ

Table 5 shows total staff of 5 companies that are operating within the zone. The companies vary in size and sectors which they operate. 2018 has the highest number of total employees 4,489 and total employees were declining over the period. This because one company lost 1340 staff between 2018 and 2019. Its staffing figures kept decline over the period because construction company was probably affected by decline in business. While the other companies' total staff were constant or

decline modestly. Unskilled staff were 68 percent of total staff in 2018, 65 percent in 2018 and 70 percent in 2019. Local staff were 89 percent of staff in 2018, 87 percent in 2019 and 87 percent in 2020. Women employment was the highest in 2019 it was 6 percent and was lowest in 2018 at 3 percent. From the sample female employment is very low which is expected. The industries within the zone are capital intensive and predominately male dominated. An interesting finding was the companies hired non-local unskilled workers, in 2019 there were 116 unskilled non-local male workers compared to 2886 local unskilled males. In 2022 the zones had 7,362 employees, 6,833 in Chambishi and 529 in Lusaka South.

Indirect job creation in Chambishi

There is no documentation of indirect jobs created within the zone. This is because companies that offer support services like construction, logistics and other services to companies within the zone are in the zone and registered in the zone. For instance, there are construction companies operating within the zone which construct most of the business within the zone. Chambishi is located outside Kitwe the nearest town. Service providers are therefore forced to operate within the zone. Another reason is that a significant number of companies in the zone are CNMC subsidiaries they have agreements to provide services to each other. Therefore, the jobs that would have been created indirectly then become direct jobs within the zone.

Lusaka South MFEZ Job Creation

Lusaka South MFEZ was declared in 2010 and started operating in 2012. The zone is owned by the Zambian government through the Industrial Development Corporation (IDC) and Ministry of Finance. Lusaka South is a government owned zone; its ownership is 99 percent Industrial Development Corporation (IDC) and 1 percent by the Ministry of Finance. The zones cover 2100 Ha. The zone was designed by private consultants and a feasibility study of the projects was carried out by JICA. It was designed to be a prototype for government zones and other zones to be developed within the country. Lusaka South MFEZ reports the number of jobs created within the zone in the annual report. Its reports permanent jobs created within the zone, projected jobs creation of approved investments, projected job creation of companies under construction and job creation of companies that have started operation. Lusaka South MFEZ is the only zone that reported indirect jobs created. The zone reported annual figures of construction jobs created within the zone.

Table 12 Jobs Created in Lusaka South MFEZ

	2019	2020	2021	2022
Permanent jobs created	2,000	900		138
Construction jobs created	3,000	1,200	2,200	
Total jobs	5,000	2,100		
Jobs by Approved Investments			9,360	7,006
Commenced operations jobs				138
Companies started construction permanent jobs				1,939

Source Lusaka South MFEZ, 2020,2021 and 2022

Lusaka South created 2000 permanent jobs in 2019 and 900 in 2020. The decline of permanent jobs was expected because of economic slowdown. It could also be attributed to withdrawal of investments by 3 companies from the zone in the same year. Manufacturing jobs were 80 % of the jobs created in with for the year 2020. In 2021, 29 investors signed leases to operate in the zone, when operational the companies will create 9,360 permanent jobs and 15, 000 indirect jobs. Six new companies started operating in 2021 unfortunately the annual report didn't disclose the actual number of jobs created by those companies. For some reason the permanent jobs created in 2021 was not listed in the annual report, instead there only stated the number of jobs to be created new investments once operation which 7,006 jobs. Eleven companies from the approved investments in 2021 will be in argo processing. The new investments of 2022 real estate will create 3,600 jobs while agro processing will create 2,906 jobs. In 2022 28 new investments were approved, 17 in manufacturing, 7 in agro processing, all the approved investment will create 7,006 permanent jobs and 35,000 indirect jobs. In 2022, 24 companies are under construction and will create 1,939 permanent jobs. Operational companies are employing 12,799 persons in 2022. Only one company commenced operations in 2022 its employing 138 people. From 2019-2021 the zone 6,400 construction jobs. Construction jobs are indirect jobs they were 60 percent of jobs created in the zone in 2019. Indirect jobs were 57 percent of jobs in 2020. The construction jobs reduced significantly during 2020 as expected due to economic slowdown, but they recovered in 2021.

Table 13 Cumulative Performance by Sector Lusaka South

Sector	Total Jobs Created	No of Companies
Agriculture and Argo-Processing	6,314	25
Construction	250	2
Diagnostics Services and Other Medical	1,229	5
Education and Skills Training	386	1
Energy	93	4
Health	100	1
High-Tech	896	3
Manufacturing	16,171	29
Processing of Minerals	633	3
Packaging and Printing	544	3
Transport and Logistics	1,637	12
Recreation	123	1
Total	28,526	91

Source Lusaka South 2022

In 2022 the zone had been operational for 10 years. Table 7 above shows the companies leased land in zone for each sector since inception. Manufacturing has the largest number of companies (29 companies) and most employees in the zone. Agriculture and Agro processing are second largest with 25 companies and 6,314 employees. These figures include 21 operational companies, 28 companies that have received approval, 24 companies at construction stage, 2 groundbreaking stage, 8 companies awaiting Zambia Environmental Agency approval, one conducting feasibility

study and one has reserved land. These numbers are projections as they include companies that have not started operating .

Zones Contributed to National Employment

As of 2022 there were 5 MFEZ operational. Namely Chambishi MFEZ, Lusaka East MFEZ, Lusaka South MFEZ, Jiangxi MFEZ in Chombo and Kalumbila MFEZ. In 2022 Sub-Sahara Gemstone Exchange Industrial Park in Ndola has been downgraded from MFEZ to industrial park. Bringing the number of industrial parks to two the park is Roma Park.

Table 14 Zone Actualised Employment

Special Economic Zone	Actualised Employment 2019	Actualised Employment 2020	Actualised Employment 2021	Actualised Employment 2022
Chambishi	8,630	8959	12,897	6,833
Lusaka East	474	1,190	2,249	529
Lusaka South	4875	5686	10,432	10,972
Sub-Sahara	130	150	191	125
Jiangxi	0	0	0	
Kalumbila	0	0	0	0
Total Actualised Employment	14,109	15,985	25,769	18,334

Source Zambia Development Agency 2019,2020, 2021 and 2022

Table 8 shows actualised employment figures of zones for the 2019-2022. Zones in Zambia created 18334 jobs in 2022 and 25,769 jobs in 2021. In 2019 Chambishi MFEZ had highest number of jobs among the zones, followed by Lusaka South. Lusaka South MFEZ created the greatest number of jobs 811 in 2019 followed by Lusaka East MFEZ 716 jobs. Chambishi MFEZ created 3,938

jobs in 2020 while Lusaka South created 4,746 jobs in 2020. Despite COVID 2019 zones experienced a high number of jobs created. In 2021 Lusaka South and ad employment figures above 10,000. The decline in employment figures in Chambishi in 2022 was because 42 enterprises had relocated or closed. In Lusaka East 5 companies closed operations because of COVID 19 reducing the number of employees in the zone. The revision in Chambishi and Lusaka East figures was because ZDA conducted its first inspection of zones in November 2021. The inspection was carried out at Chambishi, Jiangxi MFEZ and Sub-Sahara Gemstone. Inspectors discovered discrepancies in list of companies operating in the zone and the actual number of companies operating in the zone. Other irregularities discovered in the inspection were companies operating in the without ZDA license or not registered with register of companies. The inspection of Sub-Sahara zone led to its downgrading, as it was discovered that zone was inadequately developed. At the end of the four-year period Lusaka South has created the highest number of jobs 10,972 followed by Chambishi with 6,833 employees. Lusaka East has struggled with creating jobs and companies operating in the zone. The zones has been operational since 2010 but still hasn't created 1000 cumulative jobs. The researcher excluded employment figure for Jiangxi for 2021, the zone became operational in 2021. During site visit to the zone only 3 companies were operating in the premisses but had not started production. But the employment figure reported by ZDA was 10,000 which was assumed to be the projected employment for the zone. Sub-Sahara zone has consistent been creating the least amount of job.

Table 9 shows zones contribution to manufacturing employment. Jobs in the zone were 1.69 percent of national manufacturing employment in 2019 and 5.63 percent in 2022. Zones contribution to manufacturing employment has been steadily rising. Manufacturing jobs were 8.1 percent, 8.4 percent, 10.5 percent and 9.9 percent of total employed population for 2019, 2020, 2021 and 2022. Zones contribution to national employment is very marginal but significant to national manufacturing employment. The jobs created within the zones when compared to total employment is very low, in 2019 the jobs were 0.1% of total employment. Jobs created in zones were 0.56 percent of the employed population in 2022. Zone job creation in Zambia has very low contribution to total employment within the country. Unfortunately, the zone operators and Zambia Development Agency (ZDA) which is the zone regulator do not keep records of employees according by gender. From the record the researcher could not obtain the number of jobs created by gender, nationality, and number of foreign staff.

Table 15 Special Economic Zone Employment as share if total manufacturing jobs

	total employed population	National manufacturing employment	Manufacturing employment as share of total employed population	MFEZ jobs as percentage of total employed population	MFEZ Jobs as percentage of national Manufacturing
2019	2,995,103	241,618	8.1%	0.1%	1.69
2020	2,988,378	252,075	8.44%	0.06%	0.74
2021	3,164,748	330,933	10.5%	0.3%	2.98
2022	3,273,123	325,539	9.9%	0.56 %	5.63

Compiled from Zambia Statistical Agency 2019, 2020, 2021, 2022, Zambia Development Agency 2019, 2020, 2021 and 2022

Employee Questionnaire Findings

The following section is the summary of the data the researcher collected through questionnaire given to employees working in zones in Lusaka. Four items on the questionnaire captured employee's demographic data (age, gender, marital status, education). Figure 4 shows that 77 percent of respondents were male, 22 percent were female, and 0.7 percent preferred not to state their gender.

Figure 4

1) What's your sex?

144 responses

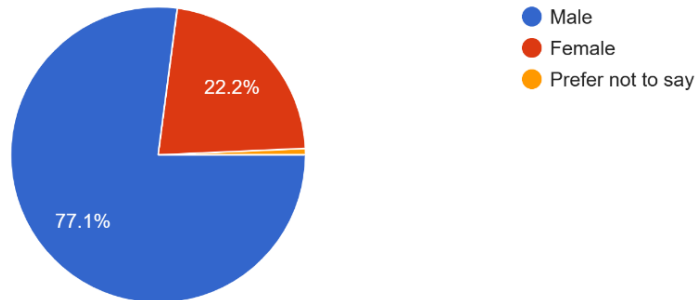


Figure 5

Source Ramaloko 2022

To ascertain the zones absorption of previous unemployed people or new formal labour market entrants, employees were asked about their previous employment, shown in Table 10. Only 20.4% of the respondents were unemployed before their current job. While 21.1 percent of them were working in the informal sector. Forty-eight percent were working in industry before. Of those with work experience 25% had 2-3 years of experience. The questionnaire for HR managers didn't include question on experience required by companies during the recruitment process. But instead, they were asked the type of labour they targeted. Although formal manufacturing jobs were decreasing during the period there is not enough evidence to assume the jobs were being reallocated to the zones.

Table 16

Previous employment

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Unemployed	30	20.4	20.7	20.7
Informal sector	31	21.1	21.4	42.1
Industry/Manufacturing	71	48.3	49.0	91.0
Retail/sales	6	4.1	4.1	95.2
hospitality	2	1.4	1.4	96.6
Farm	1	.7	.7	97.2
Health	1	.7	.7	97.9
transport	1	.7	.7	98.6
construction	1	.7	.7	99.3
chef	1	.7	.7	100.0
Total	145	98.6	100.0	
Missing System	2	1.4		
Total	147	100.0		

Source Ramaloko 2022

A follow up question was added to previous work experience to ascertain the number of work experience. Twenty-five percent of respondents had 2-3 years of experience, 21 percent had less than 1 year experience and 20 percent had 4-5 years of experience. These findings suggest that zones tend to hire staff that are experienced not new entrants to labour market.

Table 17

How long did you work there

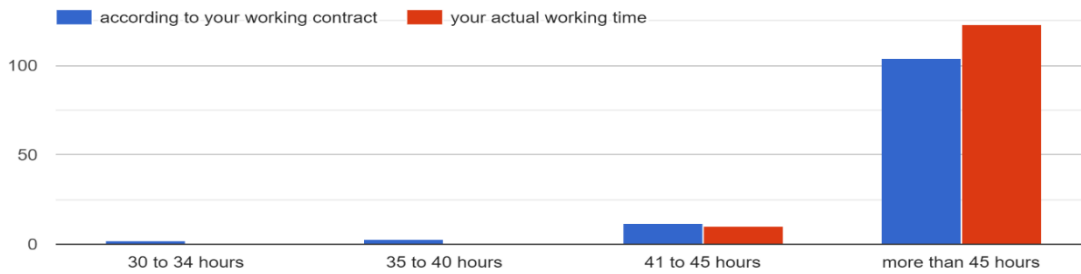
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid less than a year	31	21.1	21.1	21.1
1 year	23	15.6	15.6	36.7
2-3 years	37	25.2	25.2	61.9
4-5 years	30	20.4	20.4	82.3
11	26	17.7	17.7	100.0
Total	147	100.0	100.0	

Source Ramaloko 2022

Most the managers of the companies reported that workers working hours ranging from 40-48 hours. Working hours depended on position and if worker is full time or seasonal worker. Figure 5 shows that most employees reported that they were working more than 45 hours a week. This is because 117 of the respondents work in companies with 12 hours shifts. Only 2 companies within the sample were in 24-hour production process split with 2 shifts. The 2 outliers within the sample caused the considerable higher working hours. The working hours within the zone (45 hours) are higher than national working hours 42 hours. National working hours in manufacturing (45 hours) were the same as zone working hours. But if the working hours are viewed according to gender, men in the manufacturing industry work 48 hours, 3 hours than working hours in zones. Women work significantly less hours than men nationally and in the manufacturing sector. Women's working hours have been declining since 2019.

Figure 6

23) How many hours per week do you work at present?



Source Ramaloko 2022

Table 18 National Working Hours By Gender

	Working hours National	Gender		Manufacturing	Gender	
		male	female		male	female
2019	42	44	37	43	45	37
2020	40.6	41.3	36.9	42.1	45.6	33.7
2021	41.3	43.2	38.4	42.9	45.7	34.8
2022	42	44.	36.5	45	48	35

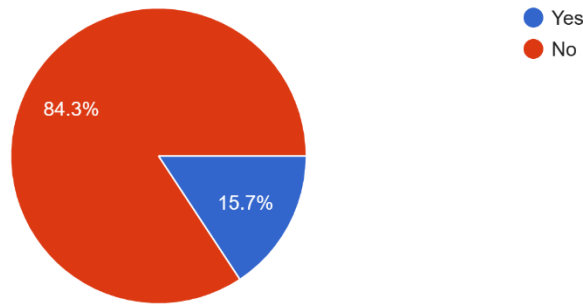
Compiled from Zambia Statistical Agency 2019, 2020, 2021 and 2022

The companies that were participated within the study produce products that are very different, making it difficult to generalise the working hours. Some companies produce their products, some are involved in repackaging and assembly. The working hours within the zone are in line with working hours of the manufacturing sector. A concerning factor was 84.3% percent of the workers started overtime work was not optional. Only 15.7% of the staff stated that overtime was optional.

Figure 7

26 Is over time work optional?

140 responses



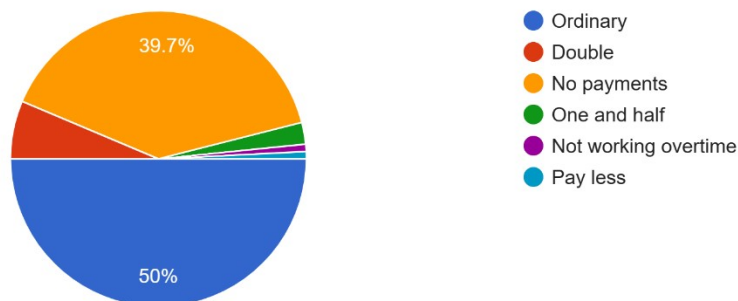
Source Ramaloko 2022

Regarding remuneration for overtime work 50 % of workers stated that overtime pay was ordinary rate, 39.7 % stated that they were not paid for overtime work. On the contrary the human resource managers of the companies stated that the staff were paid ordinary rate for overtime work. The assertion that overtime work isn't optional, and some workers are not paid raises concern.

Figure 8

28) Rate of overtime Payments

126 responses



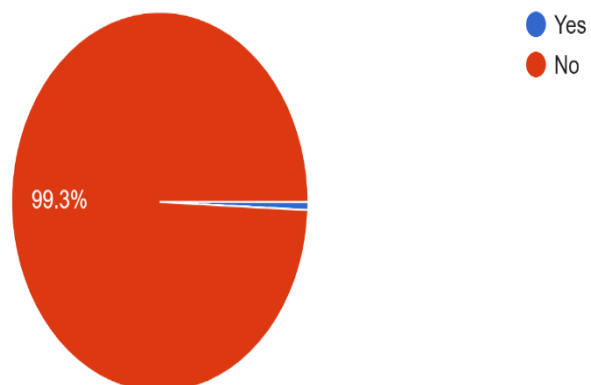
Source Ramaloko 2022

Unionisation is another indicator of working conditions, only one company within the sample stated that their workers were part of a union. Employee participation in the union is requirement for Zambia Manufacturing Associations membership, the company in question is member of the association. Management of one company expressed negative views of unions and their impact on company relations with employees.

Figure 8

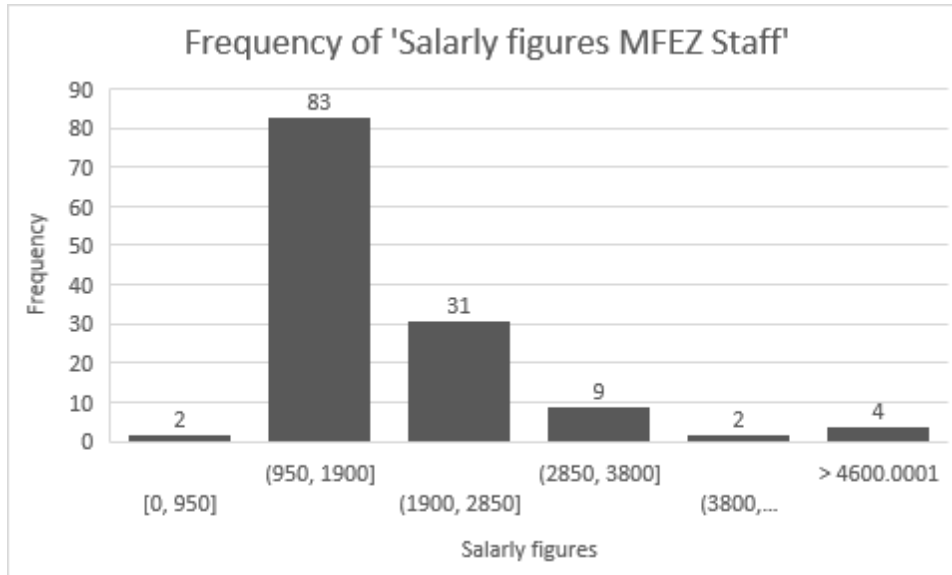
47) Is there an active union at the factory?

146 responses



Source Ramaloko 2022

Figure 9



Source Ramaloko 2022

Salary figures for the workers were difficult to properly analyse since workers had different types of contracts. Some were paid hourly, some had fixed daily rate, other had weekly pay rate and the rest had monthly salary. The lowest reported wage was Kwacha 950 and the highest being Kwacha 4600.00. One company was an outlier their production staff salaries were much higher than all the other companies. When compared with national average income the wages in the zones are much lower than national average. The national average manufacturing incomes was K3,561 in 2021 which much higher than wage of majority of the respondents whose wages ranged between 950-1900. Only 15 surveyed employees wage where close to manufacturing average income of K3,580. In 2021 the minimum wage in Zambia for general workers was ‘K1,698 but has since been revised to K 2.313’ ZBNC 2021. When compared with the minimum wage, the wages within the zone were in closer range (24 percent earned less than minimum wage and 81 earned more than minimum wage.) The vast difference in the wages is because of the difference in the capital intensity and production within the companies.

Table 19 Manufacturing Wages By Gender

		Total Earning Manufacturing	Gender	
	<i>Total earnings</i>		<i>male</i>	<i>female</i>
2019	4,010	3,160	3,163	2,983
2020	4,393	3,831	3,837	3,514
2021	4,215	3,561	3,580	3,420

Compiled from Zambia Statistical Agency 2019, 2020 and 2021

Discussions

Direct Job Creation

The lack of reporting uniformity among the zone makes it difficult to compare the employment out comes of the zones in Zambia. Lusaka South does not report staff in categorisations of skilled or unskilled, there is no report of gender distribution of the staff and if they are local and non-local. Chambishi and Lusaka East employment figures are reported together making difficult to determine each zones employment creation effects. Another factor that is not clear is that since some companies operating within the Chambishi zone are holding companies do they report non-zone-based entities to be reported in the zones. For example, NFCA owns three mines, does the company include mine employment or reported separately or mine employment excluded from Chambishi employment figures. ZCCZ is big company that operates two zones put it doesn't have any publicly available reports of its operations. This does not bode well for the zone, and its regulator. Another factor that makes it challenging for proper analysis of job creation of the zones is inconsistent reporting, for instance Lusaka South reported total job creation of 5000 (3000 construction jobs and 2000 permanent jobs), and 7,100 cumulative jobs. But ZDA reported 4,875 actualised jobs in 2019. Making unclear if Lusaka South had inflated its employment figures in the report and submitted actual numbers to regulator. The researcher's inability to sample large of companies within the zones makes it difficult generalize using employment figures of 8 companies.

The selection of companies from ZCCZ zone created high numbers of local compared to non-local workers. Although this cannot be attributed to all the companies in the zones it illustrates the need have detailed information. A concern about Chinese zones was that they would be used create jobs for Chinese nationals and few jobs for locals. Its difficult to refute that because there is no sufficient data to disprove that. Lusaka South reported creation of permanent jobs, most of the companies within the reported use of duration-based contracts. If the jobs had been reported as full-time jobs it would give more accurate account. Some of companies were using temporary workers with weekly or monthly contracts. But these jobs were recorded as full-time jobs or permanent jobs. Concealing the presence of seasonal workers within the zone. Its understandable why companies would report casual workers as fulltime workers, since Zambian labour law prohibits use of casual workers for permanent work. This under reporting of causal workers disenfranchises the workers, as they are visible so government agencies will not be able to act address their situation.

Indirect job creation

Lusaka South is the only zone that reports the indirect jobs created by the zone in form of construction jobs and others indirect jobs. The zone has so far created 6,400 construction jobs. The approved investments of 2021 are expected to create 15,000 indirect jobs when operational. Investment approved in 2022 will create 35,000 indirect jobs. Should the indirect jobs be realised the zone will create 50, 000 indirect jobs excluding construction jobs. Chambishi zone the indirect service are provided by companies within the zone making difficult to quantify the indirect jobs created by zone. Indirect jobs are important as they demonstrate linkages between companies in the zone and greater economy. These also create significant spillovers like industrial upgrading, technology transfer and skills transfer.

It is apparent from ZDA inspection findings that reliance on self-reporting from zone operators and companies operating in zones is not reliable. For the ZDA and other entities to able to conduct the proper evaluation of jobs in zones, working conditions and labor related matters. There will be need for more stringent monitoring measures to ensure that ZDA has accurate information.

For zones to be successful there has to uniformity in aspects like minimum wage, working hours and benefits, respect for unionization, gender quality and incentives for staff training. To ensure

that requirements are met there needs to be labour inspections, conflict resolution specialist and reporting hotline. Currently the ZDA does not have labour specific requirements for companies operating in the zones. Labour inspections in the zones are conducted by Ministry of Labor and Social Welfare independent of ZDA. There is no mechanism for the entities to conduct joint inspections or information sharing. Zones can have medical clinic, fire brigades to deal with onsite emergencies. Zambia does not have a centralised system for recording occupational accidents and fatalities. Making it difficult to ascertain national statistics for occupational accidents and fatalities. The National Workers Fund reports only statistics of entities that are registered with them. It is difficult to determine how they translate to general country.

Skills shortage is another challenge for companies. There should be study conducted on skills mismatch and shortages within industrial sectors and targeted sectors. Retooling or skills enhancement classes should be made available for unemployed youth and workers in specific sectors. Private education providers and companies should be incentivized to conduct the program. Companies that hire trained staff or take their staff for training should receive some sort of incentive.

Conclusion

‘Special economic zones take five years to produce large scale employment benefit,’ Farole and Akinci 2011. Although zones in Zambia have been in operation for 16 years, they are not creating jobs at an exponential rate. UNCTAD 2021 study found, 14 percent of SEZ in Africa created 0-1000 jobs, 49 percent created 1001-10,00 jobs, 14 percent created 10,001-20,000 jobs and 24 percent of SEZ created more than 20,00 jobs. ‘Half of African zones have created between 1,000 and 10,00 jobs,’ Rodrigues -Pose et al 2022. Lusaka East MFEZ is part 14% of African zones (0-1000 jobs) it created only 529 jobs. Chambishi MFEZ is in the 49% of 1,001-10,000, it created 6,833 jobs. Lusaka South is in 14 percent of zones 10,001-20,000 with almost 11,000 jobs. Of all the operational zones Lusaka South has the highest number of prospective jobs 16,366 for investments that have been approved. When all 91 companies are operating, they will employ 28,526 people. The findings of this study are in line with Rodrigues -Pose et al 2022 and UNCTAD 2021. But the African zone contribution to industrial employment is much less than that of Asian countries. ‘Recent estimates SEZ account for between 1-5% of industrial employment,’ Rodrigues -Pose et al 2022. The findings of this study, Zambian zones contributed 5 percent of

manufacturing employment which is in line with Rodrigues -Pose et al 2022. SEZ contribution to manufacturing employment is significant but contribution to national employment is modest. 'Even the countries with labour intensive industry and have highest employment Morocco and Ethiopia share does not exceed 5 percent of national industrial employment,' Rodrigues -Pose et al 2022. The recent figures show that zones in Africa are still lagging with regards to employment creation.

In terms of women employment this research did not get enough data to determine zones contribution. In general women in Zambia participate less in the formal job market. In other African countries zones in terms of female employment; Boyenge 2007, found that female employment in special economic zones in Madagascar for 2005 was 70%, Mauritius 62%, and Malawi 51%. While Farole and Akinci 2011 study found Ghana female employment was 22%, Kenya 66%, Lesotho 61%, Nigeria 15% and Senegal 32% and Tanzania 56 %. In other African countries from previous studies zones had significant effort on women employment. Zone operators and regulator need to collect more information on women employment in the zones so they can identify interventions to remedy the situation.

Working conditions within the zones, in terms of working hours. Most of the staff working hours are in line with manufacturing industry. But there were companies with 12-hour shift with no rest day as prescribed by the law. Zambian labour law requires shift workers to have a rest day after every six days. Most workers were not part of union, mostly because their employers are not part of Zambia Manufacturers Association. Which requires that members staff be unionized. Union membership is not prevalent among manufacturing workers. Informality of manufacturing industry is another contributor low unionisation. Union laws in Zambia allow for membership of formal sector employees.

Most of the staff are predominantly male in line with literature that capital intensive production tends to be more male oriented, (70% of the staff interview were male). Companies in heavy manufacturing have long working hours (7:00 AM to 7:00 PM) or (8:00 AM to 8:00 PM). For instance, two companies had a 24-hour production with only two shifts in a day. Staff company have long 12 hours shifts 6 or 7 days a week. Although the overall working hours reported were high, when compared to national manufacturing working hours for men (48 hours), hours in the zone were 45 hours were slightly lower. But their wages were lower than national manufacturing

wages. Wages within the sample had large range with lowest salary K950 and highest K8000. The discrepancy in the range was caused by one company with small production staff that earned high salaries. Zambia Development Agency has a small team to supervise the zones and there's also no coordination with the Labor Commission to help handle labor issues. The ZDA data does not focus too much on attaining detailed employee information from the companies and zones relating to gender, education, wages, and other details that are pertaining to the workers. ZDA focuses more on collecting more information on investment and other outcomes.

Zambia did not seem to exhibit a decrease in manufacturing jobs in the greater economy when the jobs within the zone increased. In the number of manufacturing jobs within the zone seem to be growing with the manufacturing jobs are growing in the rest of the country. The growth in the manufacturing jobs in the zone does not seem to be helping the growth of the many formal manufacturing jobs most of the manufacturing jobs in Zambia. Almost 70% worker's in the manufacturing sector are still in the informal sector in 2022. Formal manufacturing employment has been increasing since 2020. 'Zambia needs industries that employ low-skilled people in large numbers, Rajaram, Chiwele and Phiri 2022. Zones in Zambia need to attract companies in light manufacturing and export-oriented entries. Since these hire low skilled staff which can help reduce the number of people outside the labour force. SEZ have contributed to formal employment in Zambia although the contribution has been modest.

Recommendations for ZDA

MFEZ developers should be required to publish annual reports, these reports should include, current number of employees, cumulative number of jobs created since inception. New jobs created in the current year, projected jobs to be created by new investors, investment awaiting approvals, investments under construction. The jobs created should be stratified gender, education, skills level and nationality. Investors that have pulled out and operations that have closed or moved out of the zone should be included in the report. Zones developers should report jobs they have created directly and their cumulative jobs since inception. There should be report of indirect jobs

created within the zone. These reports should be publicly available, this will allow for more research on zones in Zambia to be carried out.

Companies operating in MFEZ should be mandated to submit report to ZDA annually. The employment section of the report should include total number of staff, new hires in the year, staff by position and gender, full time or part time staff, non-fatal accidents or work-related health issues, fatal occupational accidents, union membership, total staff compensation costs, contribute to workers' compensation fund, pensions, staff training, staff redundancy, staff turnover rate. Use of temporary workers should also be reported. The aggregated figures from the reports should be used to create database for zone employment in the country. This database should be publicly available.

All the zones should have labour centre run by the Ministry of Labor and Social Security; the centre will be responsible for handling all the labour related of the zones. From resolving labour disputes for companies in the zone, labour inspections, processing of work permit skills training and other. This will allow for better monitoring of labour practices within the zones. The Ministry of Labor and Social Security should be consulted in creation of labour specific issues for zones within independent MFEZ Act. The section should include tax breaks for companies in the zones who train staff, hire certain staff demographics. The law should include reporting of occupational accidents, fatal or non-fatal and occupational diseases and claims to the Compensation Fund. It should state consequences for companies not abiding to reporting standards. There should be Inspection of zone entries should be done with Ministry of Labour, other government entities.

Companies should be mandated to report work related accidents, injuries, disease, fatal or non-fatal. JICA in its suggestion for Lusaka South MFEZ Act was that there should be Labour centre within zones. Under zone HR with coordination with Ministry of Labor and Social Security, representatives labour sector and management sector, it would be responsible for manpower pool, training and other Labor related activities. To encourage training of staff, there should be incentives like tax deductions for portion of the training's needs to create tool that it can use to evaluate the employment effects of zones.

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