



Did ‘Burmese Way to Socialism’ Create Jobs Equitably?

*Ohmar Khine**

Faculty of Economics, Chulalongkorn University, Thailand.

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Abstract

This study examines whether the adoption of the ‘Burmese Way to Socialism’ philosophy by Myanmar’s military regime affected employment opportunities in non-agriculture sectors and created jobs equitably for the Burmese majority and other ethnic minorities. The econometric analyses of two censuses between 2014 and 2019 showed that the growth of industrial employment in Myanmar faltered under the military junta. Also, the majority ethnic Burmese gained more employment than other ethnic minorities, indicating that economic inequality widened under the military regime. These results contradict the socialist ideology of industrialization and equality touted by the military government.

Keywords: Myanmar, Burma, employment, military junta, equality, ethnic conflict

JEL Classifications: J01, J21, J24

* **Corresponding author:** Email: ohmar01@gmail.com

1. Introduction

Employment affects the economic, political, and social growth of a nation. At a macroeconomic level, employment raises the nation's productivity and gross domestic product (GDP) (Buchele & Christiansen, 1999). At a microeconomic level, it provides income and financial capital for individuals (Heintz, 2006). Financial stability due to job availability also leads to social and political empowerment (Brody et al., 2015; Kabeer, 2001; Karlan et al., 2016; Kapoor, 2019). For these reasons, understanding employment, especially its antecedents and consequences, is critical for deciphering the efficacies of past and present economic policies and predicting future directions.

To date, academic research on employment in Myanmar (Burma), especially at sectoral (primary, secondary, and tertiary) and district/township levels, has been scarce. Past studies focused on government institutions (Meyer & Thein, 2014), business performance after the military takeover (Maung, 1997), the impacts of economic sanctions on textile employment (Kudo, 2005a; Seekins, 2005; Myint et al., 2014), the relationship between wages and policies (Baily, 1974), and wage bargaining (McDonald & Solow, 1981). A handful of reports in recent years have examined the country's general economic trends within the context of capital development (Tanaka et al., 2015) and trade (Lin, 2020).

While most scholarly articles concentrate on comparisons between the socialist (i.e., the Junta) and democratic periods, other articles have presented patterns and analyses based on Myanmar's political economy. There are, however, very few studies that make use of comprehensive data, apply econometric specifications, and estimate the effect of the military junta. This study fills the gap by estimating the effect of the military junta on employment in Myanmar. To accomplish this, (i) we make use of comprehensive data on employment, enterprises, etc., which is disaggregated at district and sectoral levels; (ii) we apply an econometric specification to estimate the effect of the military junta on employment; and (iii) we further extend the analysis by estimating the differences in employment opportunities between Burmese and other ethnic minorities during the military junta through an interaction term in the model.

This absence of data-driven analysis extends to the differential effects of past economic policies on the heterogeneous population in Myanmar. The majority (68% of the population) is ethnic Burmese, while the remaining 32% belong to other ethnic minorities (Summerer et al., 2014). The ideological principle, the 'Burmese Way to Socialism' (BWS), was instituted at the beginning of the military regime in 1962 and touted industrialization and equality among all citizens. But the policies based on the BWS philosophy have never been evaluated, including whether the BWS led to employment creation and whether jobs were equitably distributed across all ethnic groups in the country.

Ethnic minorities in Burma have had limited opportunities to participate in the administration, governance, and economic policy-making processes since independence in 1948. The military junta had full control for all the administration levels of government in states and divisions from 1962 to 2010 (Meyer & Thein, 2014). Although ethnic minorities have large populations in states, their leaders have been excluded from decision-making on economic development in states at any level. Although the sub-regional governance institutions changed significantly after the election, state budget planning was still dominated by top-down decision-making without the involvement of ethnic minorities (Batcheler, 2019). For all these reasons, the ethnic minorities were left behind in job opportunities in Myanmar.

The overall goal of this study is to examine whether the military junta succeeded in executing the BWS. More specifically, the study addresses the question: Did the military junta create jobs as promised? If so, did all Myanmar citizens – Burmese and other ethnic minorities – benefit equally from the governmental policies? The current study addresses these questions using region-level analysis to examine, first, whether the military junta influenced the sectoral employment share during its ruling period before 2014 compared to the employment share during the post-military junta period after 2014. Second, the study evaluates if employment opportunities were created equitably for the majority ethnic Burmese population and other ethnic minorities during and after the military junta period.

In this study, both qualitative and quantitative methods are used to explore potential political and philosophical motivations that lead to economic consequences for employment in Myanmar. Additionally, ethnicity in Myanmar is one critical social factor that has been ignored in the empirical literature, i.e., the division between the Burmese ethnic group and other ethnic minority groups and the economic implications of the potential ethnic discrimination in post-independent Myanmar. This study incorporates the ethnicity factor into employment economics in Myanmar.

The rest of this paper is structured as follows: Section 2 provides background information on Myanmar. Section 3 describes the data and methods used for the study. The research results are presented in Section 4, and conclusions are covered in Section 5.

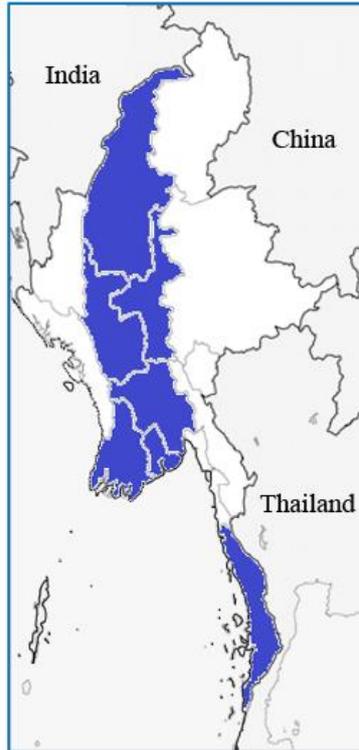
2. Background on Myanmar

2.1. Geography and Ethnic Composition

Myanmar is a country in South East Asia bordered by Bangladesh, China, India, Laos, and Thailand and extends from north to south with mountain ranges stretching longitudinally (Figure 1). The country is sectioned into seven divisions and seven states¹, all of which are administratively equivalent. Generally, the seven divisions occupy the central regions dominated by flatlands, while the seven states contain mountainous regions bordering neighboring countries Bangladesh and India to the west and China, Laos, and Thailand to the east (Figure 1).

¹ Myanmar is separated into seven states primarily based on the concentration of ethnic groups in the area (such as Chin, Shan, and Kayin) and seven administrative divisions (<https://www.britannica.com/place/Myanmar/Government-and-society>).

Figure 1: Geographic Concentrations of Burmese and Ethnic Groups in Myanmar



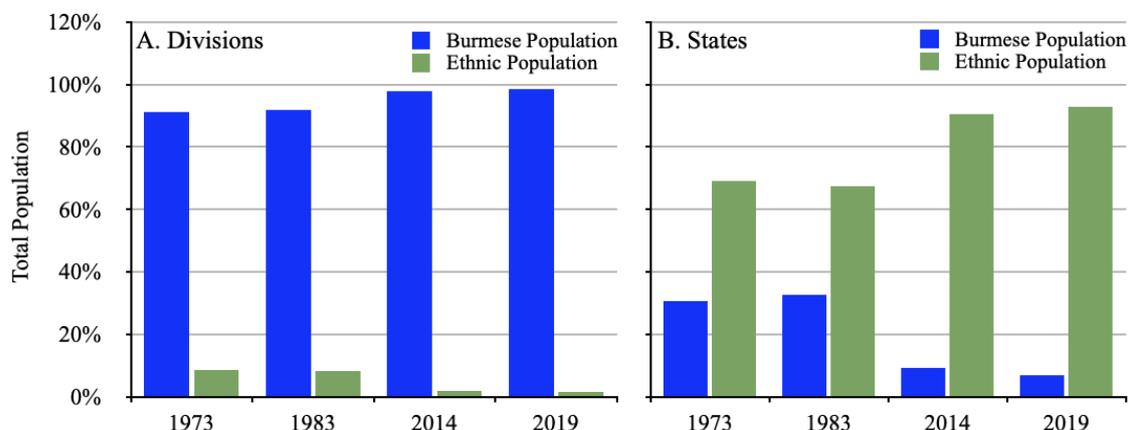
Note: The seven divisions that have high Burmese concentrations are colored blue while the seven states with high ethnic minority populations are white. Both states and divisions are equally controlled by the government. The bold lines represent national borders to India, China, Thailand, and Bangladesh (not shown).

Source:

https://upload.wikimedia.org/wikipedia/commons/archive/3/30/20110929160850%21Myanmar_location_map.svg. Modified by the author.

The ethnic majority of Burmese, about 68% of the national population (Summerer et al., 2014), is concentrated in the seven divisions. Other ethnic groups (Kachin, Kayah, Kayin, Chin, Mon, Rakhine, and Shan) predominate the population of the seven states, with an average of 80% of the state population, while Burmese occupy 94% of the population in the seven divisions (Figure 2).

Figure 2. Population Changes in Seven Divisions and Seven States

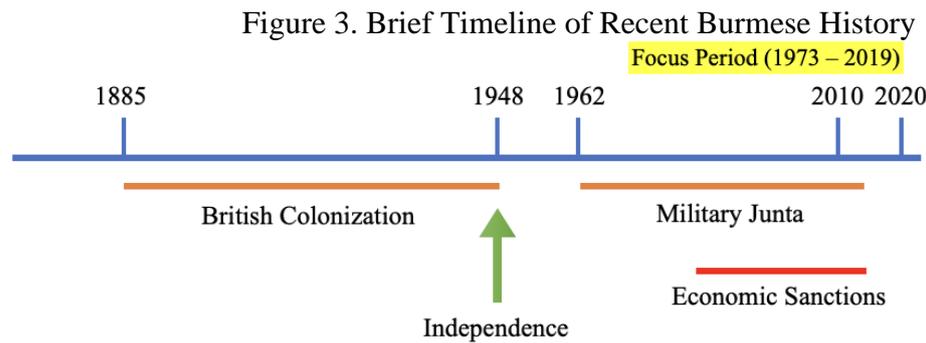


Note: Changes in Burmese and ethnic minority populations are plotted for the indicated years. A. Percent total populations of Burmese (blue) and ethnic minorities (green) in seven divisions. B. Percent total populations of Burmese (blue) and ethnic minorities (green) in seven states.

Source: The author's calculations are based on the data from MLIP (2020).

2.2. Brief Economic History of Modern Myanmar²

Myanmar fought against the British Empire in the Anglo-Burmese wars starting in 1824 but was eventually colonized in 1885 (Figure 3). Myanmar declared independence from the British in 1948 and adopted a policy called Myanma Hsoshelit Lanzin (Than, 2007) according to its socialist ideology and self-supporting economy (Thein, 2004). The new government instituted this ideology, also known as the ‘Burmese Way to Socialism’ (BWS), to focus on nationalization, industrialization (Tinker, 1961; Von Der Mehden, 1963; Than, 2007), liberty, and equality (Silverstein, 1964) to achieve Phidawtha – a prosperous and wealthy state (Maung, 1970). One aim of the BWS was to restore the asset ownership of land and factories to Myanmar citizens, who lost these assets under the British Empire.



Note: The figure shows a brief timeline of recent Burma history with significant events relevant to this research.

Source: Author’s compilation.

In 1962, the military junta took over the power of the entire country and tried to apply the BWS to its economic plans. The government aimed to reduce unemployment in the country and promised to ‘liberate the ... workers from ... exploitation of man by man’ on 30 April 1963 (Than, 2007, p. 139). As part of the BWS policy, the government nationalized all financial institutions, foreign joint ventures, trade enterprises, and domestic retail (Thein, 2004). Senior military officers replaced all executive positions of administration from the divisional level to the township level (Than, 2007). The government eventually expanded state ownership and controlled all economic activities – price controls (Kyi et al., 2000), agricultural and industrial production, distribution, transportation, and communication (Maung, 1970) to eliminate all private competition (Silverstein, 1964). The socialist military government assumed that private industries were the enemies of socialist economic goals (Maung, 1970). Therefore, the military government limited new private establishments while increasing its business involvement to support itself (Maung, 1970).

The nationalization of all aspects of the economy resulted in adverse consequences. Those who were closely connected with military personnel benefited from nepotism and cronyism, while others lost jobs and business opportunities. Furthermore, the government’s control over the vast economic machinery resulted in the redundancy of agencies and enterprises. For example, multiple agencies like the Department of Agriculture, the State Agricultural Marketing Board, the State Agricultural Bank, the Agricultural and Rural Development Corporation, and the Land Development Corporation were all in charge of economic activities and technical support for farmers

² Furnivall (1957), Silverstein (1964), Thein (2004), Brown (2013) and others have published excellent reviews on various aspects of Myanmar. This section is confined to the topics pertinent to the current study.

(Maung, 1970). The existence of multiple and redundant agencies caused not only inter-agency conflicts but also inefficiency and waste of human resources (Maung, 1970). Ultimately, the policies to assist farmers backfired, raising government spending for redundant agencies without increasing productivity (Maung, 1970; Than, 2007; Brown, 2013). Due to the government's ineffective policies and mismanagement, the country ran into severe shortages of consumer goods (Than, 2007). Industries had difficulty obtaining raw materials from within the country and foreign countries, forcing many factories into bankruptcy (Kyi et al., 2000). Meanwhile, state-owned industries barely survived despite massive government subsidies (Kyi et al., 2000). The government's inefficiency and the lack of competition resulted in worker layoffs and factory closures, causing high unemployment in 1980 (Than, 2007).

In 1990, the military junta embraced the market economy and liberalized economic ownership (Bünte, 2011). It expanded its economic activities, such as construction, hotels, tourism, transport, mining, and agriculture. Trade liberalization incentivized foreign direct investments (FDIs), which increased job opportunities for Myanmar citizens (Lin, 2020). However, the military junta government ignored an efficient market economic model, an independent central bank, or a stable exchange rate system, all of which were critical to increasing capital inflow and employment in the country. Even after the policy changes, only military cronies benefited, while the majority of the population suffered (Jones, 2014).

The gulf between the beneficiaries of the military government and those who were outside the military circle was magnified in the chasm between Burmese and other ethnic minorities in Myanmar. The national leaders, primarily ethnic Burmese generals, promulgated equality and unity under the BWS, but the discrimination of other ethnic groups was obvious. First, the constitutional Bill of Rights omitted the protection of ethnic diversity, reflecting the rampant prejudice against ethnic minorities (Ghai, 2008). Second, the Burmese-led government excluded other ethnic groups from full participation in politics and state governments (Plan & Power, 2020). Third, this preferential treatment extended to other positions: the government gave high-ranking positions to Burmese like General Ne Win, General Than Shwe, and former President Thein Sein. These government-sanctioned actions resulted in growing grievances and mistrust among ethnic minorities against Burmese and their government (Walton, 2008).

To oppose these discriminatory actions, ethnic groups formed armed groups to protect their cultures and languages and began armed rebellions against the government in various regions within Myanmar. The military government responded to these attacks by launching armed assaults against ethnic groups. These internal conflicts, which have lasted to this day (Farrelly, 2016), destroyed the lives of ethnic groups in these areas due to the lack of safety and stability. Also, their employment was compromised in the conflict areas because land, factories, and infrastructure (roads, electricity, and water supply) could be easily damaged and left abandoned without repair. In general, internal conflicts impacted the economy, employment, and job security (Iyer & Santos, 2012; Stewart, 2015).

In protest against ethnic persecution and the military government's nullification of the 1990 democratic election results, the United States (US), the European Union (EU), and other western nations imposed broad economic sanctions against Myanmar (Ewing-Chow, 2007), effectively banning all FDIs from the US and other developed nations (Ewing-Chow, 2007). The majority of foreign investors withdrew investments, closed their businesses, and stopped trading with Myanmar. In 2003, additional economic sanctions were imposed on textile exports from Myanmar to the US due to human rights violations against ethnic minorities (Kudo, 2008). Consequently, local garment industries shut down 64 factories and laid off 80,000 workers (Seekings, 2005). Factories in other

industries followed suit (Kudo, 2008). The economic sanctions hurt small and medium enterprises, resulting in high unemployment (Kudo, 2005b; Seekins, 2005). These economic sanctions blocked all trade activities with other western nations as well. The complete economic isolation and the totalitarian military regime placed Myanmar in the same league as North Korea and Cuba. However, China, Thailand, and other countries in the Association of Southeast Asian Nations (ASEAN) continued to trade with Myanmar.

In November 2010, the military junta government held an election. The party formed by retired military personnel (the Union Solidarity and Development Party) won the landslide victory without the participation of the popular political party, the National League for Democracy (NLD), led by Aung San Suu Kyi. Because the policies based on the BWS caused the economy to slow down and increased unemployment rates under the previous military government, the transition government established new policies and promised to uphold transparency and accountability. As part of the reform, the transition government renewed the minimum wage law in 2013, which was aimed at raising income, lifting people out of poverty (Kyaw & Cho, 2021), and increasing the living standard (International Labour Organization, 2013). The government also established a floating rate in global currency markets. This reform served as a valuable link between the local and international markets for various goods, services, and financial assets (Hori & Ching Wong, 2008; Kubo, 2014), encouraging FDI inflows into Myanmar. According to the World Bank report in 2017 (World Bank, 2017), FDIs could be beneficial for developing economies by increasing productivity and worker skills, encouraging technical development, generating better-paying employment, and boosting local businesses which could change the employment structure in Myanmar (Figure 5). These policies attracted foreign investors and supported local enterprises, improving business registrations from 31,009 in 2005 to 38,950 in 2012 (MMSIS).

Additionally, these economic reforms enhanced international communities' trust in Myanmar. The US and EU lifted the economic sanctions in 2012 (Gelb et al., 2017). The Asian Development Bank also provided loans for education, energy, and infrastructure (Asian Development Bank, n.d.). Expanding industries and a general improvement in the economy provided employment opportunities for all individuals in Myanmar. Despite these economic reforms and FDI support, the transition government still based its economic principles on the BWS: the military junta had a firm grip on the Myanmar economy since 1962, as documented by Thein (2004, p. 161-284) and Than (2007, p. 85-120).

In direct opposition to the idea of the BWS, the NLD based the election campaign on pitching the democratic way of governance as part of the manifesto in 2015 (National League for Democracy, 2015). The NLD won majority seats in the parliament during a democratic election and took over the control of the government peacefully from the military junta. After the election, the NLD-led parliament enacted economic policies such as the Myanmar Investment Law, which promoted a fair market for both foreign and domestic investors (Maw, 2018). The NLD managed steady development in the banking and financial sectors with clear economic policies (Maw, 2018) that were contrary to the idea of the BWS.

As a result, more FDI flowed into the country, stimulating economic activities and employment. For example, foreign investment rose sharply from US\$3.2 billion in 2014 to US\$8 billion in 2015 (Drees-Gross et al., 2015). In 2015, the Thilawa Special Economic Zone Project attracted over 80 industries of foreign investors who produced goods for both export (garment and medical equipment) and domestic (agriculture machinery, fertilizer, and processed foods) consumptions (Rab et al., 2016).

These investments generated up to 40,000 factory jobs (Rab et al., 2016) and nearly 730,000 jobs in the garment industry (Beck et al., 2018). Also, under the EU

Generalized System of Preferences, Myanmar export products were eligible for zero import tariffs and quota-free access to diversifying markets. Relatedly, the government renewed the foreign investment laws in 2016 to entice international investors (Thet, 2020). FDI continued to rise from US\$3.3 billion in 2017 to US\$4.2 billion in 2019 (Beck et al., 2020). Due to the increasing investment in agriculture, industries, and service sectors, overall employment increased from 81.9% in 2017 to 83.8% in 2018 (Beck et al., 2019). Although the NLD government expanded Myanmar’s economy, it has also been criticized for its failure in the Rohingya conflict in Rakhine State and the general neglect of ethnic grievances, impacting FDI and trade activities.

In February 2021, the Myanmar military declared another coup d’état, overthrew the civilian government, and established an autocratic government to correct the “unfair results” of the election in November 2020. Since then, political turmoil and conflicts between the military and resistance groups have compromised the country’s development. Additionally, the military government has reversed policies on the financial system, exchange rates, trade laws, and the suspension of foreign loan repayments (World Bank, 2022). For example, the military government restricted all banking services, causing businesses to suffer cash shortages (“Myanmar’s Economy in Freefall,” 2021). Foreign investors cancelled their projects due to the uncertain business climate (White et al., 2021) and accelerated FDI flights from the country (World Bank, 2022). Consequently, employment decreased annually by 1.6 million in 2021 compared to 2020 (ILO, 2022). The country’s economic outlook remains bleak.

3. Methods

3.1 Datasets and Measurement of Variables

The empirical analysis for this study uses the census datasets from 2014 and 2019, which were recorded at the districts level (MMSIS). Other censuses from 1973 and 1983 are available, but they do not contain the employment share at district and township levels.

This study categorizes employment into three sectors used by the Myanmar government in the 2014 and 2019 censuses. Table 1 provides a descriptive summary of the sectors, classes, and categories under each class.

Table 1. Categories of Sectors and Classes Defined by Myanmar Census

Sectors	Classes (industries)	Categories
1. Primary	1.1 Agriculture, hunting, fishing and forestry	1.1.1 Field crops cultivation, plantations, livestock, hunting, fishing and forestry
2. Secondary	2.1 Mining and quarrying	2.1.1 Coal, metal, crude petroleum, stone quarrying, and non-metallic mining
	2.2 Manufacturing	2.2.1 Food and beverage, tobacco, textiles, footwear, furniture, printing, publishing, plastic, and chemical products
	2.3 Construction	2.3.1 Construction
	2.4 Electricity, gas and water	2.4.1 Sanitary, electricity, gas, steam, and water service
	2.5 Transportation, storage and communication	2.5.1 Land, water, air transport services and communication
3. Tertiary	3.1 Services	3.1.1 Government services, social, financing & insurance, real estate, business, recreation, personal services, and repair service
	3.2 Trade (wholesale, retail trade, restaurants and hotels)	3.2.1 Restaurants & hotel, wholesale and retail trade

Source: Census data: Ministry of Labour, Immigration and Population (2019).

This study considers several employment outcomes. The first outcome, the employment rate, captures overall employment status and economic activities (Stanila et al., 2014). Briefly, the employment rate is calculated as the number employed in a district with respect to the total working-age population in the state/division. We also consider the sectoral employment share, which is calculated by the labor force in a sector in a particular district with respect to the total labor force in the state/division. The sectoral employment share is used as a dependent variable to capture employment status in individual sectors (Kapsos, 2006; Pattanaik & Nayak, 2014). These indicators are proxied to capture the employment shares in primary, secondary, and tertiary sectors of Myanmar economy from 2014 to 2019: from the labor force perspective.

Additionally, this study uses establishment per capita as another dependent variable for employment. This proxy indicator is calculated by the number of establishments (firms) per 100 people in a given state or division. Compared to the employment rate or employment share, this indicator records the number of establishments relative to the population in the area. The measurement of establishment per capita is beneficial because it represents investment and business creation in the area. Thus, the employment rate and employment shares represent employee perspectives, while establishment per capita captures the perspectives of investors and employers. Establishment per capita is confined to non-agricultural economic activities like household and non-household manufacturing, handicrafts, processing, and other firms in the secondary and tertiary sectors due to the limited availability of business transactions in the agricultural sector. The focus on the secondary and tertiary sectors is justified because these sectors contribute to 20% of the total GDP on average and employ 44.6% of the working population (MLIP, 2020). Table 2 shows the summary statistics.

Table 2. Summary of Descriptive Statistics (2014 & 2019)

Variables	Obs.	Mean	Std. Dev.	Min	Max
Employment rate	142	0.816	0.172	0.455	0.996
Establishments per capita	142	0.045	0.056	0	0.436
Primary share	142	0.600	0.186	0.014	0.903
Secondary share	142	0.153	0.079	0.011	0.468
Tertiary share	142	0.248	0.122	0.074	0.720
Military junta	142	0.500	0.502	0	1
Burmese	142	0.575	0.459	0.016	0.995
Military junta X Burmese	142	0.304	0.442	0	0.995
Conflict	142	0.225	0.419	0	1
Log population density	142	0.287	1.357	3.444	4.175
Literacy rate	142	0.859	0.136	0.249	0.981
Railway	142	0.930	0.570	0	1.710

Note: The share in the table refers to the employment share of the specified variables.

Source: Ministry of Labor Immigration and Population and Myanmar Statistical Information Service (MMSIS), Global Database’s Myanmar (CEIC), and National Democratic Front (2010).

The railway database on the Global Database’s Myanmar, CEIC (in miles), is used to calculate the railway infrastructure of each state in percentage relative to the total railway miles in Myanmar. The information regarding internal conflicts is from the Buchanan (2016). The literacy rate comes from the census data.

3.2 Empirical Approach

The study's first goal is to observe the average employment trend in different sectors. The second goal is to determine whether Myanmar's military junta influenced employment in non-agriculture sectors and provided employment benefits equitably between Burmese and ethnic minorities. The employment characteristic is calculated at the district level (71 districts included) using data from the 2014 and 2019 censuses. This study is examined at the district level with an econometric specification using the ordinary least squares method (OLS) to understand the factors that are related to employment share in different sectors. We also employ several fixed effects to capture the unobserved heterogeneity, which is explained further in the section.

The following equation specifies the OLS model used in this study:

$$Y_{ijt} = \beta_0 + \beta_1 Junta_t + \beta_2 Burmese_{jt} + \beta_3 [Junta \times Burmese]_{jt} + \beta_4 Conflict_{jt} + \beta_5 \ln Pop_{ijt} + \beta_6 Lit_{ijt} + \beta_7 Rail_{jt} + \delta_i + \varepsilon_{ijt} \quad (1)$$

where Y_{ijt} is a measure of various employment outcomes. The equation also analyzes the dataset at disaggregated sector-levels. The right side of the equation incorporates the military junta rule ($Junta_t$) as one of the explanatory variables. This variable is used to estimate the military junta's influence on employment compared to the non-junta period. A dummy variable takes the value 1 for the period during the military junta's control in 2014 and the value 0 in 2019. This coefficient captures the relative differences in employment patterns between the military junta period and the post-military era after 2014.

To examine if the BWS created jobs equitably for all Myanmar citizens, the population of Myanmar is divided into two demographic groups based on ethnicity: Burmese and other ethnic minorities. This study records the Burmese ($Burmese_{jt}$) population as a fraction of the total population in each state or division j at time t . Employment equity is measured by incorporating an interaction term ($[Junta \times Burmese]_{jt}$) between the 'junta' variable and the 'Burmese' variable, which captures the fraction of majority Burmese in each state or division j at a point in time t . The coefficient of the interaction term indicates the differential impact of military junta rule on majority Burmese employment outcomes.³

In line with the existing literature, the control variables for the regressions include internal conflict, population density, literacy rate, and railways. The following are the explanations for these variables. In Myanmar, the disputes between the ethnic minorities and the military junta over territorial integrity led to ethnic insurgencies in the 1970s and continue to this day. Because employment and the economy are severely affected by internal conflicts (Iyer & Santos, 2012; Stewart, 2015), this control variable is added to the model. The internal conflict variable is expected to have a negative influence on employment in both the agricultural and non-agricultural sectors. Population density (population per square kilometre in an area) is expected to affect employment positively. This study uses the logarithm of population density to reduce the extrema and the outliers' effects. The variable 'literacy rate' is a proxy indicator for human capital (Pattanaik & Nayak, 2014) and is expected to affect employment positively. Following Donaldson and Hornbeck (2016) and Paik and Vechbanyongratana (2019), the control variable "railway"

³ Initially, the "division" variable (a dummy variable taking the value of 1 if the geographic location is a division and 0, otherwise) was also added to examine the differences between divisions and states in the context of a junta. When this variable was examined for collinearity with the variable "ethnicity," the correlation between the two was 94.03 percent. As a result, only the variable "ethnicity" was used for the present analysis.

is a proxy for infrastructure. This variable is expected to positively affect employment as railway infrastructure provides greater market access, thereby increasing employment. A summary of the variables and their expected outcomes is presented in the Appendix. The study includes fixed effects for districts (δ_i) to control for heterogeneity.

4. Results and Discussion

4.1. Myanmar's Sectoral GDPs between 1960 and 2020

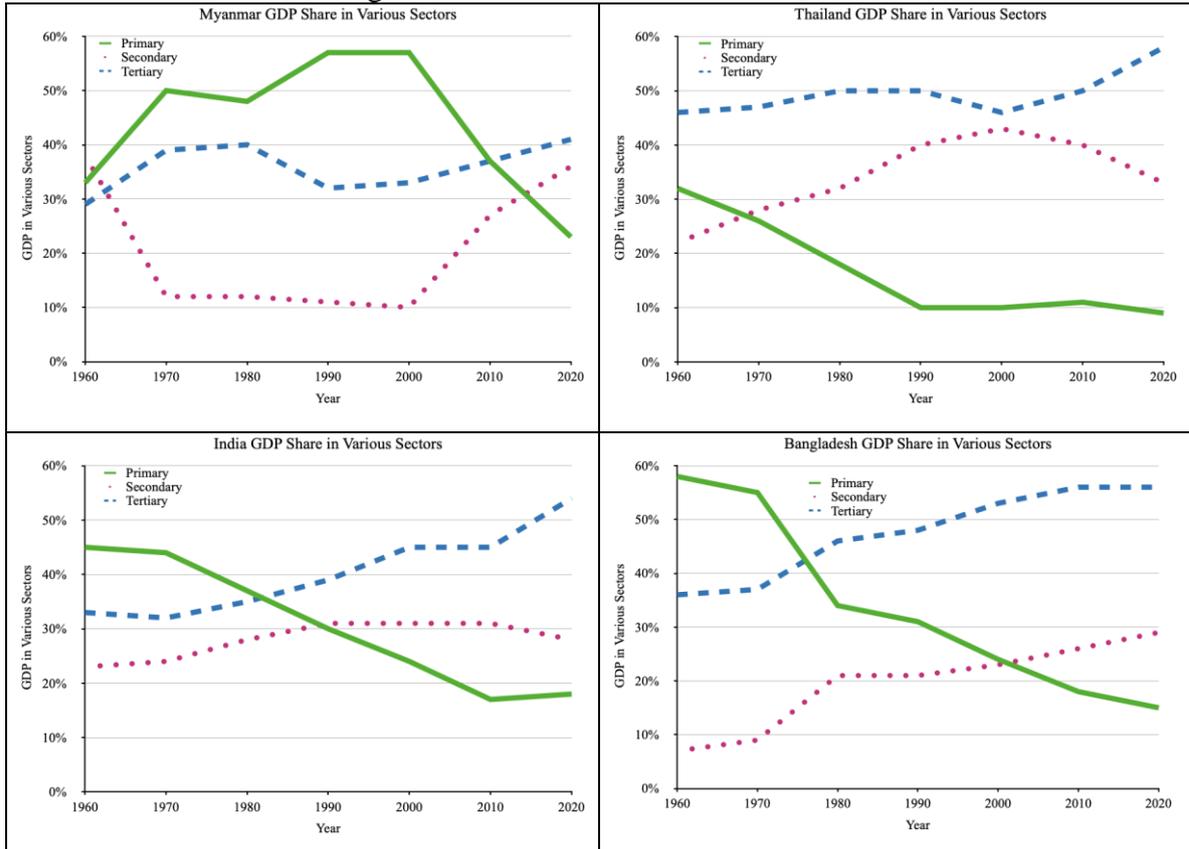
In developed countries like the United States, more people work in the tertiary sector (78.7%) than in the primary (1.44 %) or secondary (19.86%) sectors (U.S. Bureau of Labor Statistics, n.d.). In contrast, developing countries like Myanmar have more people in the primary sector (51.7%) than in either the secondary (16.8%) or tertiary sectors (31.5%) (ILO, 2016). Figure 4 shows economic outputs from the three sectors during and after Myanmar's military junta between 1960 and 2020. The primary sector started at 33.2% in 1960, reaching 57.3% in 1990 and 2000, then declined to about 30% in 2014 and continued the trend to 22.8% in 2020. Agriculture industries got neglected by the military government after 2000 (Figure 4) due to the increase in industrial economic activity (Fujita, 2016). Consequently, farmers could not borrow money from banks (Fujita, 2016), resulting in the productivity decline of the primary sector.

The GDP share in the secondary sector was 37.8% in 1960, plunged to 12% in 1970, and remained at a low level of 9.7% until 2000. The share of the secondary sector in the GDP gradually increased after 2000. This increase can be attributed to the privatization of business enterprises. In 1994, the military junta established the Citizens Investment Law 1994 to reverse the nationalization of business enterprises (Than, 2007). Then, the military government legalized the privatization process under the "Privatization Commission" in 1995 with the purpose of coordinating and supervising the transfer of state-owned enterprises to private ownership (Thein, 2004). As a result, the number of privately-owned enterprises increased from 4,873 in 1991 to 39,133 in 2005 (Stein, 2016). The privately-owned businesses in manufacturing (20%), transportation (29%), finance (17%), and commerce (16%) significantly increased from 1998 to 2007 (Kudo & Odaka, 2016, p.159). The share of the secondary sector in GDP had recovered steadily to 35.8% in 2020, when the democratic government was in place.

The share of the tertiary sector in GDP was 29% in 1960 and slightly elevated to approximately 40% in 1980, then decreased to 32.2% by 1990. This decrease appears to be a reflection of a larger share increase in the primary sector during the same period (Figure 4). Between 1990 and 2000, the tertiary GDP share rose slowly. This level reached 41.4% in 2020.

In summary, only the GDP share in the primary sector grew during the military regime, while the shares in the secondary and tertiary sectors shrank or remained the same. In contrast, during the same period, the GDP proportions in the neighboring countries, Thailand, India, and Bangladesh, showed normal industrialization from the primary to the secondary and tertiary sectors (Figure 4). These results support the hypothesis that the military junta government retarded the normal economic progression between 1962 and 2000, which was corrected under the non-military government between 2015 and 2020.

Figure 4. GDP Share in Various Sectors

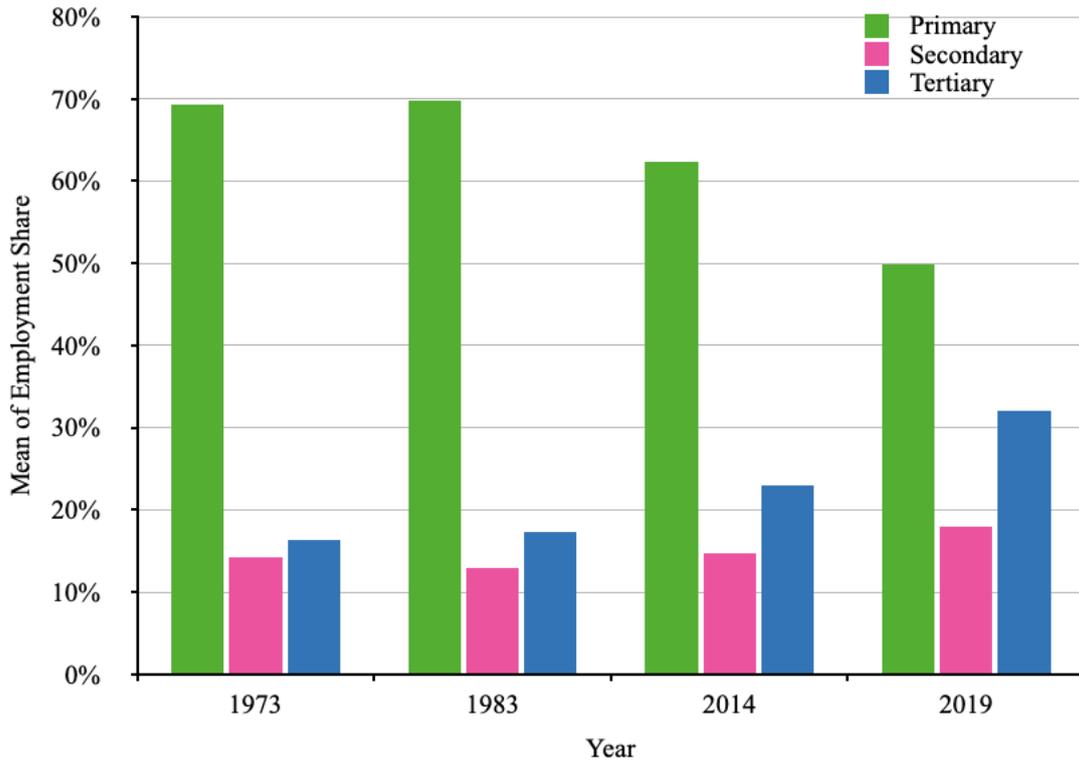


Source: (Kyi et al., 2000; Saito and Lee, 1999) and MMSIS (2020) for Myanmar, and World Bank (2017) for Thailand, India and Bangladesh.

4.2. Employment Structure and Earning Status in Myanmar (1973-2019)

The institution created by the military junta and its BWS as the core economic principle strongly influenced employment opportunities in Myanmar. Figure 5 shows the mean percentage of employment share in each sector for the whole country. In 1973, the primary sector dominated the employment share (70%) over the secondary and tertiary sectors (less than 20%). The sectoral proportion hardly changed under the military regime between 1973 and 1983 (Figure 5). This stagnant trend shifted to more significant proportions in the secondary and tertiary sectors between 1983 and 2014 and continued the same trend until 2019 (Figure 5).

Figure 5. Average Employment Share in Various Sectors

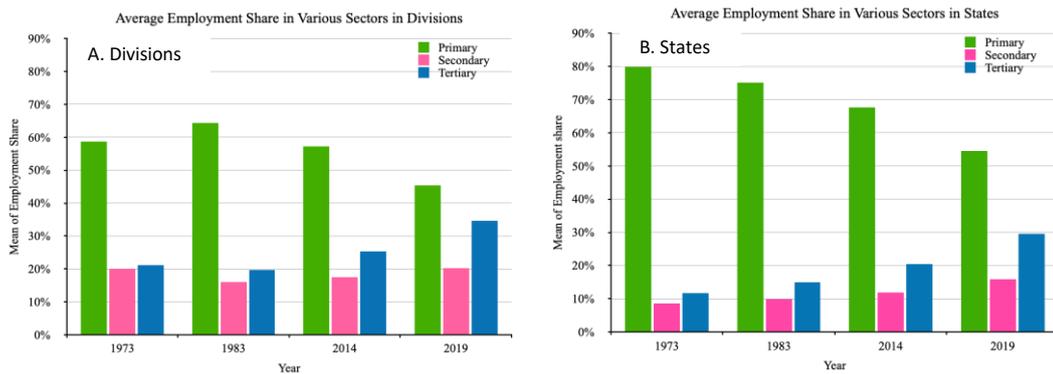


Note: The author's calculations from the census data.

Source: Ministry of Labor Immigration and Population and Myanmar Statistical Information Service (MMSIS)

Figure 6 shows the average of employment shares in divisions (Figure 6A) and states (Figure 6B). The divisions had higher employment shares in non-agriculture sectors than the states from 1973 to 2019. The results illustrate the clear gap between the divisions and states in the types of employment opportunities.

Figure 6. Average Employment Share in Various Sectors in Divisions and States



Note: The author's calculations from the census data.

Source: Ministry of Labor Immigration and Population and Myanmar Statistical Information Service (MMSIS)

Generally, the employment share is the lowest in the primary sector and the highest in the tertiary sector (Mihnenoka & Senfelde, 2015). A similar pattern was observed in Myanmar. In 2015, the workers in the primary sector earned 3,150 Ks per day (= 2.73 USD), while the workers in the secondary and tertiary sectors earned 5,020 Ks (4.36 USD) and 6,200 Ks (= 5.38 USD), respectively (ILO, 2016). Thus, given a

choice, workers would prefer secondary or tertiary sector jobs to primary sector jobs. The results in Figures 5 and 6 indicate that employment options were limited under the military regime, which improved under the democratic government. Furthermore, ethnic Burmese in divisions had better employment opportunities in secondary and tertiary sectors than ethnic minorities in states. Thus, the economic policies under the military regime limited employment choices, especially for ethnic minorities, which expanded under the transition and democratic governments.

4.3. The Effects of the Military Junta on Employment

Next, a quantitative analysis is used to determine how BWS policies under the military junta influenced the labor market. This analysis uses the 2014 census data as the “Military Period,” which reflected the influence of nationalization under the BWS, and compares it to the 2019 data as the “Democratic Period” in terms of privatization and trade liberalization in the Myanmar economy. The use of the 2014 census for this analysis is justified by the fact that the influences of the socialist systems were still prevalent in the militaristic institution in 2014, even though the economic outlook has begun to change around that time (Min & Kudo, 2014). According to the constitution ratified in 2008, the military still held a dominant position in state institutions and maintained its influence over policy formulation and implementation (Steinberg, 2021). After the landslide victory during the free election in 2015, the NLD took over state power systematically. As a result, the 2019 census data reflects policy formulation and implementation in the democratic period.

Table 3 presents the results for the employment rate (column 1) and establishments per capita (column 2). The coefficient for the military junta variable shows that the overall employment rate was 32.5% lower during the military government than after the military junta and is statistically significant at the 1% level. These results support the hypothesis that employment opportunities were scarcer during the military rule than the democratic period due to the elimination of private companies by nationalizing private corporations.

Table 3. Relationship between Military Junta Rule and the Employment Rate and Establishments per Capita (OLS Estimates)

Variables	(1) Employment Rate	(2) Establishments per Capita
Military Junta	-0.325*** (0.016)	-0.008 (0.005)
Burmese	-0.028 (0.017)	-0.001 (0.002)
Military Junta X Burmese	-0.005 (0.018)	0.028* (0.016)
Conflict	-0.087*** (0.018)	0.003 (0.005)
Log Population Density	-0.014 (0.033)	-0.052* (0.027)
Literacy Rate	-0.031 (0.063)	-0.003 (0.011)
Railway	-0.159 (0.175)	0.318* (0.172)
Constant	1.089*** (0.110)	-0.226* (0.116)
District Fixed Effect	Yes	Yes
R-squared	0.975	0.932
Observations	142	142

Notes: *** p<0.01, ** p<0.05, * p<0.1; Robust standard errors in parentheses

Source: Author's calculations

A similar analysis was used to determine the relationship between the military junta rule and employment shares across three sectors. The employment share was 17% higher ($p < 0.01$) in the primary sector but 6% and 11% lower ($p < 0.01$) in the secondary and the tertiary sector during the military junta than the non-military period (Table 4). These results support the conclusion that, during the military period, the non-agricultural economic activities were dampened, resulting in the reduced secondary and tertiary sector jobs. Non-agricultural jobs generally offer better wages under the trade liberalization of market (Mihnenoka & Senfelde, 2015).

Table 4. Relationship between Military Junta Rule and Sectoral Employment Share (OLS Estimates)

Variables	(1) Primary	(2) Secondary	(3) Tertiary
Military Junta	0.171*** (0.028)	-0.057*** (0.011)	-0.106*** (0.016)
Burmese	-0.013 (0.025)	-0.020 (0.015)	0.033** (0.013)
Military Junta X Burmese	-0.048 (0.034)	0.048*** (0.016)	-0.008 (0.018)
Conflict	0.023 (0.053)	-0.004 (0.019)	-0.001 (0.031)
Log Population Density	-0.042 (0.043)	0.001 (0.020)	0.044 (0.028)
Literacy Rate	-0.182 (0.160)	0.036 (0.036)	0.135 (0.128)
Railway	-0.003 (0.229)	0.221 (0.140)	-0.198 (0.153)
Constant	0.570*** (0.202)	0.086 (0.092)	0.333** (0.142)
District Fixed Effect	Yes	Yes	Yes
Observations	142	142	142
R-squared	0.945	0.945	0.945

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; Robust standard errors in parentheses

Source: Author's calculations.

The above analyses show that the Myanmar economy during the military junta regressed from the tertiary and secondary sectors to the primary sector. The BWS-driven nationalization of private corporations is consistent with this drop. In other words, the nationalization caused the closures of private businesses, leading to the employment drop in the non-agriculture sector and the rise in farmers and other primary sector jobs. Both of these economic developments, the shift from the tertiary to the primary sector in employment and the dropped number of establishments (i.e., less capital investment), indicate the regression of the economy. The conclusion is consistent with the GDP share (Figure 4) and the average employment share (Figure 5). Economic growth usually adjusts employment from agriculture to manufacturing to the service sector in that sequence (Acemoglu, 2012). The backward economic trend during the military junta era contradicts industrialization and the move toward a wealthy nation (Maung, 1970), both of which were the fundamental BWS goals (Tinker, 1961; Von Der Mehden, 1963; Than, 2007).

We next address the question of equity under the BWS policies. The interaction term between the military junta and Burmese (Junta \times Burmese) is examined to determine if Burmese and other ethnic minorities benefited equally from the military junta's economic policies. A positive coefficient ($p < 0.1$) for the interaction term in establishments per capita (Table 3, Column 2) indicates that, during the military regime, capital investments in non-agricultural sectors were higher in the Burmese-concentrated areas than in the areas with ethnic minorities. This point was examined further by determining which sectors had higher employment in areas with high proportions of ethnic Burmese. As shown in Table 4, the secondary sector has a positive coefficient ($p < 0.01$) for the interaction term. This finding indicates that, during the military junta rule, workers in areas with higher proportions of ethnic Burmese were relatively more likely to be employed in the secondary sector than in areas with lower proportions of ethnic Burmese. The higher rates of ethnic Burmese working in the secondary sector with relatively high incomes suggest preferential treatment for ethnic Burmese during the military junta period.

These results support the hypothesis that the military government provided more industrial employment opportunities in the areas dominated by ethnic Burmese. This hypothesis is also supported by the differences seen between divisions and states in Figure 6. Three possibilities could explain these results. First, the industrialization planning and the strategic development process in the military government did not include ethnic minorities' participation, resulting in the concentration of industrialization in the Burmese-controlled areas. During this period, most of the industries were owned and controlled by either state or military firms (Perkins, 2012). At the same time, many regulations made it difficult for competing businesses to succeed (Perkins, 2012). As a result, state ownership of industrial development remained dominant in Myanmar until 1990 (Kudo, 2005b). Thus, industrialization concentrated in the Burmese-controlled areas.

Second, geographically, Burmese lived in the centrally situated divisions in Myanmar where manufacturing and industrial sectors were located, while ethnic minorities lived in more remote, rural, mountainous, land-locked, and conflict-ridden states (Figure 1). These rural areas had limited access to infrastructure such as electricity and transportation systems necessary for economic development. Because the military government did not invest in infrastructure (Kudo, 2005b), it may have focused industrialization efforts on the central part of Myanmar, where infrastructure was already better developed than in the rural areas. These central areas had more Burmese than ethnic minorities, resulting in uneven employment opportunities.

Third, industrialization requires human capital. Education is an essential part of human capital in a country's economy because it encourages innovation and provides high-quality labor that promotes growth and development (Lucas, 1988; Mayer, 2001). At a personal level, education increases income, wealth, living standards, and quality of life (Ashenfelter & Rouse, 2000). Thus, education improves a worker's opportunity for better employment. The military government in Myanmar spent only 1.9% of GDP on education on average during the period between 1973 and 2011⁴. This anemic investment in education caused a sustained gap between states and divisions: 7% of children (7-15 years) in the states on average have never attended school, compared to 2% in the divisions, according to the 2014 census (Department of Population, 2017). Because Burmese in the divisions were better educated than ethnic minorities in the states (MMSIS, 2020), they were better qualified for the secondary and tertiary sectors. All of

⁴ Sources; World Bank, <https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?locations=MM> (accessed July 2022)

these possibilities may have played additive roles in employment inequality. Whatever the cause of the inequitable employment may have been, the equitable employment promised by the BWS was not achieved under the military government.

This type of inequality causes internal conflicts by excluding ethnic minorities from participating in economic and political processes in a nation. As shown in Table 3, internal conflicts lowered ($p < 0.01$) the employment rate. Internal conflicts cause severe economic repercussions (Montalvo & Reynal-Querol, 2005; Iyer & Santos, 2012; Serneels & Verpoorten, 2015; Stewart, 2015), but there is no consensus on how to capture their consequences. Recording internal and external migrations would be one way to monitor the severe tolls caused by internal conflicts (South, 2007). The current study showed that employment statistics might reflect internal conflicts. It would be essential to find out the economic consequences of labor patterns due to recent internal conflicts in Myanmar, including those involving Rohingya (Cook, 2014; Farrelly, 2016), Arakanese (Bashar, 2019), and Kachin (Sadan, 2015). Additionally, the military junta seized power on February 1, 2021, and arrested political leaders, university students, medical doctors, and other skilled workers. Such a drastic change targeting the skilled population would devastate labor markets and investments for many years to come (Manurung, 2021).

In addition, ethnic Burmese had 3% higher employment opportunities in the tertiary sector, as shown by the statistically significant positive coefficient (Table 4, Column 3). This finding indicates that ethnic Burmese had more employment opportunities in the tertiary sector. This result can be explained by the fact that most of the Burmese population resides in the centrally located divisions, where there is better access to education and, potentially, better work opportunities in the tertiary sector.

5. Conclusions

The BWS, instituted by the military junta to nationalize and industrialize the economy, damaged the economy by reducing firm numbers and capital investment. The military junta boosted employment, but the growth occurred only in the primary sector due to the shrinkage in the secondary and tertiary sectors. This trend is counter to an economy's progression under normal conditions (Acemoglu, 2012). Other Asian countries like Taiwan, South Korea, Japan, Hong Kong, and Singapore shifted from agriculture to manufacturing and service industries during successful modernization and industrialization (Oshima, 1986). Even its neighbors, Thailand, India, and Bangladesh, steadily progressed toward economic modernization by developing their secondary and tertiary sectors during the same period (Figure 4). In contrast, during the forty years under the military regime, Myanmar's economy became more reliant on agriculture. Also, the military government's BWS policies benefited the Burmese population more than ethnic minorities by providing relatively more employment opportunities in the secondary sector (Figure 6). The general economic sanctions, which were intended to discourage the military government's undemocratic actions and human rights violations, benefited the government while reducing employment opportunities for Myanmar's citizens.

To date, few studies have used quantitative methods to understand how past policies have influenced Myanmar. Although sparse data narrows available econometric tools, this research article is the first to combine available datasets to empirically analyze historical labor patterns in Myanmar. Other analyses regarding land ownership, remittance, taxation, international migration, informal trade, and related topics in economics are desperately needed to shed light on the consequences of government and international policies in modern Myanmar.

In 2010, Myanmar began the path toward democracy and industrialization. However, on February 1, 2021, the Myanmar military declared another coup d'état and took control of all aspects of the government in response to the “unfair election” in November 2020. Historical analyses of the past policies examined in this study are invaluable for politicians and policymakers in the current period of economic and political uncertainties under the new military junta. This study suggests that fair market competition among local business owners and foreign investors is vital to promoting economic progress and increasing employment for all citizens in Myanmar. It also highlights that further sanctions by international actors may be detrimental to ordinary Myanmar citizens.

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APPENDIX

Summary of the Variables, Measurements, Proxies, and References

Particulars	Category	Variable (notation)	Proxy	Expected sign	Source
(1) Dependent variables	(1.1) Employment-I	Employment rate	Total labor force in district i state j at time t divided by the total working population in district i state j at time t	NA	Stanila et al. (2014)
	(1.2) Employment-II	Establishment per capita	Number of establishments in state j at time t divided by the number of population in hundreds in district i state j at time t	NA	Author
	(1.3) Employment-III	Primary sector	Number of employments in primary sector in district i state j at time t divided by the total number of employments in district i state j at time t	NA	Bailey & Waldinger (1991)
	(1.4) Employment-IV	Secondary sector	Number of employments in secondary sector in district i state j at time t divided by the total number of employments in district i state j at time t	NA	Mollick & Cabral (2009)
	(1.5) Employment-V	Tertiary sector	Number of employments in tertiary sector in district i state j at time t divided by the total number of employments in district i state j at time t	NA	Ndubuisi et al. (2021)
(2) Explanatory variables	(2.1) Military Junta	Junta ($Junta_t$)	A dummy variable which takes the value 1 if there is Military Junta period and 0 otherwise	(- / +)	Author
	(2.2) Interaction expansion	Junta \times Burmese ($[Junta \times Burmese]_{jt}$)	Interaction between <i>Military Junta</i> and <i>Burmese</i> variables	(- / +)	Author

Particulars	Category	Variable (<i>notation</i>)	Proxy	Expected sign	Source
(3) Control variables	(3.1) Ethnicity	Burmese (<i>Burmese_{jt}</i>)	Fraction of Burmese in state <i>j</i> at time <i>t</i> compared to the total number of population in state <i>j</i> at time <i>t</i>	(+)	Author
	(3.2) Uncertainty	Internal conflict (<i>Conflict_{jt}</i>)	A dummy variable if there is an internal conflict in the state <i>j</i> at time <i>t</i> and 0 otherwise	(-)	Author
	(3.3) Population	Log population density (<i>InPop_{ijt}</i>)	Total population in district <i>i</i> state <i>j</i> at time <i>t</i> divided by the area of district <i>i</i> state <i>j</i> at time <i>t</i>	(+)	McMillen (2001)
	(3.4) Human capital	Literacy rate (<i>Lit_{ijt}</i>)	Fraction of people who are literate in district <i>i</i> state <i>j</i> at time <i>t</i>	(- / +)	Pattanaik & Nayak (2014)
	(3.5) Development infrastructure	Transport infrastructure (<i>Rail_{jt}</i>)	Fraction of railway infrastructure in state <i>j</i> at time <i>t</i> to the total railway infrastructure in Myanmar at time <i>t</i> , respectively	(+)	Donaldson & Hornbeck (2016); Paik & Vechbany ongratana (2019)

Source: The author's compilation. NA = not applicable (row 1 to row 5 in column 5).