

## The Political Economy of Military Rule in Myanmar

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### Abstract

This paper focusses Myanmar, where the military has ruled for over 60 years. It gives a historic overview of regime changes under military rule and explains the role of the Tatmadaw (the military) as the guarantor of a hierarchical Buddhist system, which has excluded ethnic minorities. It then formulates a theoretical conflict model with three poles: the two contestants are the Tatmadaw and the Ethnic Armed Organisations (EAOs) who seek to control the government, but the government contributes to economic growth but not to civil war. The military wishes to keep its sovereign status, the EAOs seek to reduce the poverty gap which affects their regions most. To achieve these objectives, they require resources, which they acquire directly by appropriating natural resources and indirectly by transfers from government. Controlling the government can shift the balance of resources in favour of either of the two contestants. A general equilibrium in the balance of power depends on military efficiency and the poverty gap.

The paper provides empirical evidence how the balance of power has fluctuated over the years. Periods of relative liberalisation have followed severe repression. The model explains shifts in policy regimes and the occurrence of military and palace coups. Military coups and regime shift were more probable when the military was in a weak position. When the democratically elected NLD-led government sought to affirm its autonomy, and especially when it shifted fiscal resources to public health during the Covid pandemic, the military responded by the 2021 coup.

Keywords: Myanmar, military dictatorship, coups, ethnic conflict, economic growth, inflation, poverty, migration, remittances, federalism

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**Key words: Myanmar, peace, civil war, military coup, poverty, economic growth, Buddhist state.**

## The Political Economy of Military Rule in Myanmar

This paper focuses on the quasi-permanent civil war in Myanmar.<sup>1</sup> This is not only justified by a 'return to the single-country study' in political sciences (Pepinsky 2019), but also by three substantive aspects. First, although Myanmar is one of the worst human rights violators in the world, the reasons and dynamics of the conflict are little understood. Second, the country qualifies for what the literature discusses as 'enduring internal rivalry' (DeRouen and Bercovitch 2008) and 'protracted, intractable conflict' (Coleman 2003). According to this literature, civil conflicts are occasionally interrupted by ceasefires that do not last. Why are they so recurrent in Myanmar? Third, authoritarian rule is not infrequent in Southeast Asia. Myanmar lends itself to the study hierarchical states where the military dominates the government, and the resistance contests this hierarchy. The subordinated role of the government is deeply embedded in the cultural interpretation of Burmese Buddhism that conflicts with democratic states where the government represents the people. Fourth, because of the subordinated role of the government, the conflict is not a dyad between government and rebels, but a three-polar model with broader significance. Many authoritarian societies function with similar models of hierarchy, especially those where Communist parties rule. These models are fundamentally different from modern democracies where sovereignty emanates from the people who delegate power to the government.

Much of the conflict literature works with dyad models of two conflicting actors (DeRouen, Bercovitch and Wei 2009), where the government or rebels use violence to maintain or acquire power or gain (Besley and Persson 2011). Such models can include more actors who contest the same prize and also peace-making third parties (Gehrmann 2019). However, in Myanmar the government is neither an actor in the civil war nor a peacemaker. It is the handmaiden of the military, called *Tatmadaw*, which preserves the unity of the state. The government's objective function is not to get the prize in a contest, but to develop the conditions to produce wealth. It functions as a third party which at times gets captured by the military, and at others leans towards civil society and ethnic minorities. The position of the government thereby determines the balance of power between the contestant parties.

The workhorse of the conflict literature is the contest model (Konrad 2009), which distinguishes between appropriative and productive activities.<sup>2</sup> The first is about looting, bribing, and taxing, the second about economic growth, fiscal policy, and development. Two parties, a rebel group and a government, allocate resources to either of these two activities (Blattman and Miguel 2010). Controlling the government enables a party to seize rents in the form of transfers from the government's budget. The objective of rebellion is either to capture the state (even at a regional substate level) or to secede from it (Collier and Hoefflert 1998, 564). In the Burmese case, we need to distinguish three poles. The *Tatmadaw* and the Ethnic Armed Organisations (EAOs) appropriate economic rents to fight the civil war. The government has

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<sup>1</sup> After Independence, the country's official name was the *Union of Burma*. After the 1962 military coup it was changed to the *Socialist Republic of the Union of Burma*. In 1989 it was called *Republic of the Union of Myanmar*. I use the name Myanmar for the country, and Burmese for the adjective.

<sup>2</sup> (Grossman and Kim 1995); (Anderton, H. and Carter 2019)

an intermediary position. It does not conduct war but supports wealth creation and makes budget transfers to the non-productive actors.

The 'prize in the contest' is maintaining or improving the status in the social hierarchy and that requires access to wealth. For the Tatmadaw, democracy and federalism are a threat to its status. For the Ethnic Armed Organisations, access to wealth permits closing the poverty gap which affects the ethnic minorities most. Ethnic identity is an economic insurance mechanism.

For many years, the Burmese military and ethnic groups used to exploit natural resources for income, but they are increasingly depleted. 'Under the shadow of the future'<sup>3</sup> economic growth has become an alternative to appropriating natural resources and the government has a primordial role for economic development. By controlling the government and developing its fiscal capacity, either side can appropriate benefits from economic growth. But the modus is different. The military can appropriate a larger share of the budget and also seize rents from the illegal exploitation of natural resources because it controls the policing apparatus. It can also discriminate against minorities - the 'sons of the soil' (Fearon and Laitin 2011) - who then take up arms and demand independence. Ethnic minorities would benefit from a democratic government which they can influence.

Because civil war is detrimental to growth, ceasefires and liberalisation policies can release resources for wealth creation, but distributional conflicts remain. In societies with large ethnic populations and heterogeneous preferences, federalism can reduce poverty and preserve a sense of fairness (Oates 1972). In Myanmar, the Tatmadaw never accepted this option. It defends Buddhist-traditional homogeneity for part of the society and discriminates against minorities. The 2011-2021 reforms aimed at higher economic growth which shifted the balance of power in favour of the EAOs to which the military responded by increased fighting and higher battle related deaths. After the negative pandemic shock the military returned to violent resource appropriation.

In the next section, I will trace a summary of the relevant events in recent Burmese history. Section 2 develops a formal model about the imbalance of power that explains degrees of repressiveness of military rule. In section 3, I will test the validity of this model for Myanmar empirically. The last section concludes.

### Myanmar's Transition to Nowhere

Most conflicts are temporary.<sup>4</sup> Myanmar is an exception. The country stands out with the questionable honour of having the longest running military dictatorship in the world (Matelski 2024, 17). For over 60 years the Tatmadaw has ruled uninterruptedly, and no end is in sight. Its negative economic performance has sustained civil war and dictatorship, although the degrees of repression and violence have varied over time. Periods of harsh repression have alternated with softer regimes, but the military has never let go of power, even if it associated civil governments to its rule between 2011 to 2021. Despite hopes to the

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<sup>3</sup> The expression is from (Bearce, Floros and McKibben 2009) and applies to forward-looking decision making.

<sup>4</sup> The PRIO database (<https://www.prio.org/data/1>) on armed conflicts gives the precise dates for beginning and end of conflicts.

contrary, there was no transition to democracy.<sup>5</sup> The military coup in 2021 has generated a full-blown civil war with a degree of violence never seen before.

### The state under military rule

The permanent civil war with ethnic groups has allowed the Tatmadaw to 'divide and rule' (Smith 2016). Colonial rule had created complex structures of administrative discrimination against 135 indigenous ethnic groups.<sup>6</sup> When the country gained independence in 1948, it inherited unsolved constitutional conflicts about the role of ethnic minorities. The Burmans (or Bamar) were the majority ethnic group, making up over half of the population, followed by Shan, Karen, Kachin, Chin, Arakanese, and Rakhine. Many spoke different languages and practiced different religions (Smith 1999). The ethnic minorities are a myriad of non-homogenous groups with often diverging and occasionally united aspirations, but their resistance is motivated by widely felt injustices, violations of human rights, and deep poverty. Yet, beyond the common label of Ethnic Armed Organisations (EAO), they have never been more than a loose alliance of heterogeneous actors, unified in their rejection of the Bamar-dominated state and a vague idea of a federalist constitution.

The leader of the Burmese independence movement and founder of the modern Tatmadaw, General Aung San, had convened the First Panglong Conference in 1947 to discuss the constitutional design of federalism for the minorities and the Burman majority. His assassination cut the process short. Soon, ethnic minorities proclaimed their desire to become independent states. Some took up arms as early as in the 1950s. The ensuing civil war justified the Tatmadaw to claim that they were the only guarantor of the unity of the country.

In 1962, General Ne Win took power in a coup, and since that time the country has lived under military rule. Ne Win proclaimed the 'Burmese Way to Socialism', which he described as a 'scrambled egg of Buddhism and Marxism' (Eh Htoo and Waters 2024). His political system established the Tatmadaw as the supreme power and subordinated the government to administer daily affairs. From a Western perspective, this institutional hierarchy is not well understood. Traditional societies are hierarchical, with the highest level representing those who set the rules and laws for society. For example, in the Indian Vedic system the Brahmins occupied the highest caste because they interpreted the voice of Gods (the universal whole) and defined the law. They had the 'mandate of the heaven', as the Chinese would call it, because God was the most universal whole of all. At the second level of hierarchy stood the Kshatriyas (kings, warriors, and soldiers) who enforced the laws (Dumont 1980). Southeast Asian Buddhism later reverted this order, but hierarchy remained the structuring principle.<sup>7</sup> The *dharmaraja* was the king who upheld the moral and

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<sup>5</sup> For example the World Bank wrote in 2014: 'Myanmar is currently going through a triple transition: (1) from authoritarian military system to democratic governance; (2) from a centrally directed, closed economy to a market-oriented, open one; and (3) from 60 years of conflict to peace in the border areas' Quoted by (Oo 2015, 100); access to the website has since been blocked. See also (Lall 2016); (Matelski 2024).

<sup>6</sup> The Citizenship Act of 1982 uses the term 'ethnic groups' for those permanently settled in Myanmar before 1823 AD. The 2008 Constitution uses the term 'national races'. The terms are interchangeably used.

<sup>7</sup> In fact the transition from the Vedic system to Buddhist hierarchy took three steps. In the Vedic system, the brahman as the interpreter of the Vedas was the moral norm setter. Under the Indian king Asok, the *Rajadharma* was the 'great King' who *gives order* to society, sanctified by the Buddhist *sangha*. He upholds the moral and

natural order of the world (*dharma*) and had the duty of protecting the members of the Buddhist *sangha* (monkhood) who lent him legitimacy. To preserve the moral order, the ruler had to wield *danda*, the infliction of punishment and the exercise of coercive force whenever and wherever violation of *dharma* occurs (Tambiah 1976, 23-24, 83). There is little doubt that Ne Win saw himself as a modern *dharmaraja*.<sup>8</sup> Under the system he set up, the Tatmadaw advanced to the highest level in the social hierarchy because it claimed to protect the integrity of the Burmese nation in the Buddhist tradition and to restore ancient (precolonial) laws. The Buddhist *sangha*, the religious community of monks, articulated the moral system and legitimised the Tatmadaw's rule. The government administered *artha*, the material wealth. This system was consistent with Buddhist traditions, but, of course, the ethnic minorities, many of them Hindu, Christian, or Muslim, did not fit into the system.

Before the 1962 coup, Myanmar was known as the 'rice bowl of Asia' (Oo 2015). Under Ne Win's socialism, the country's economy was closed to the world. Industries and private companies were nationalised and free market mechanisms were replaced by government allocation. More than half a century of impoverishment and isolation followed. Burma, as it was then called, became the poorest country in the world. GDP per capita (in 2015 constant USD) was \$ 25.10 in 1960. Thirty years later, it had doubled to \$ 52.75, but Myanmar remained the poorest country in the world until 1990.<sup>9</sup>

The popular uprising against General Ne Win's rule on 8. 8. 1988 was brutally repressed. More than 3,000 people were killed, and mass arrests followed. Many opponents joined the ethnic resistance groups. Nevertheless, the regime changed. Ne Win resigned and the separation between Tatmadaw and the state was dissolved. The military Junta kept power without constitutional foundations through the newly constituted State Law and Order Committee (SLORC). Aung San Suu Kyi, the daughter of independence hero Aung San, became the leader of the opposition party National League of Democracy (NLD) and in 1991 she won the Nobel Prize for Peace.

The SLORC ruled brutally for four years under General Saw Maung. He was replaced in a palace coup by General Than Shwe who served as the head of state and chairman of the ruling military junta from 1992 to 2011. In 1997 the SLORC was renamed the State Peace and Development Council (SPDC). Powerful regional military commanders were transferred to new positions. Few observers have attached much significance to the name change,<sup>10</sup> but Win (2008) has shown that it was part of a purge amongst the military personnel. More about this below.

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natural order of the world (*dharma*) as divinely instituted in the Vedic codes. Under the Southeast Asian Buddhist scheme "the universal cosmic law (dhamma) is the root and fountain head of kinship" (Tambiah 1976, 52) and the king as *dharmaraja* follows and *implements* this universal law.

<sup>8</sup> For a discussion of Ne Win's anticolonial xenophobia and the nostalgia of a society 'inherited from the powerful Bama kings of the central plains who dominated their neighbours and maintained a large Royal Army (the Tatmadaw)', see (Eh Htoo and Waters 2024, notably p. 27-29).

<sup>9</sup> World Bank data indicator code: NY.GDP.PCAP.CD

<sup>10</sup> See for example the comprehensive studies by (Lall 2016) who as a student of Robert Taylor seems to be more sympathetic to the military reformers, and (Matelski 2024) who has supported the opposition. (Smith 2016) who knows the ethnic groups well, keeps a more balanced view.

Under General Than Shwe ceasefires were negotiated with selected ethnic armed groups (Smith 2016). The strategy was designed by General Khin Nyunt, the head of Military Intelligence and third in the military hierarchy. He shortly became Prime Minister in 2003 and initiated the so-called Road Map to Democracy but was arrested and removed in a palace coup in 2004, although ceasefire negotiations continued. However, when the promises of improved living standards did not materialise for the ethnic populations, the ceasefire agreements did not last (Brenner 2019).

The ethnic groups were not the only ones to resist military rule. In 2007, the Bamar population also revolted. The 'Saffron Revolution' against deteriorating living standards was supported by the Buddhist sangha. Again, it was repressed. However, the participation of Buddhist monks in the uprising was a shocking sign of de-legitimisation of military rule. In response, the hardline generals built up an extremist nationalist and anti-Muslim movement led by the radical Buddhist monk Wirathu, who opposed the liberalising reforms of President Thein Sein and later the election of Aung San Suu Kyi (Zin 2015). This extremist movement prepared the ground for the genocide of the Muslim Rohingya in 2017.

The political dynamics cannot be understood without assessing the role of ethnic minorities. Their grievances have always amalgamated political, cultural, religious, and economic demands. At times, some ethnic groups demanded full independence, at others, they seemed content with a federal constitution. Federalism meant a decentralised democratic system in which ethnic populations could preserve their cultural diversity, attain greater control of natural resources, and foster economic development in the regions and states where they were in a majority.<sup>11</sup> Yet, its concrete structure was never clarified. For the Tatmadaw, federalism was unacceptable. Decentralisation would have undermined the foundations of the *dharmaraja* hierarchy and reduced the share of resources they could control.<sup>12</sup>

Under Ne Win, the military and the government were distinct. After 1988, the SLORC ruled as a unified junta by decree without any legal legitimacy (Matelski 2024, 75). The generals usurped the government. To close the legitimacy gap and after years of dragged-out deliberations, a constitution was finally passed in 2008.<sup>13</sup> It was followed by elections in 2010 where only pro-military parties were able to run.

Yet, the constitution did have profound effects. After years of harsh repression, a period of gradual opening and partial liberalisation followed. While the SLORC/SPDC regime had merged the two hierarchical levels of Tatmadaw and government, the 2008 constitution separated them again. However, the government remained subordinated to the military: 25% of the seats in parliament were reserved for sitting military officers; the Tatmadaw kept three influential ministries (Home Affairs, Defence, and Border Affairs) by constitutional right, and the constitution even legitimised military coups in case of emergency (Matelski

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<sup>11</sup> For a comprehensive review of federalism in Myanmar, including top-down and bottom-up federalism, see (South 2022). For a discussion of the literature on decentralisation, poverty reduction, and economic development, see (Ahmad and Brosio 2006)

<sup>12</sup> During the Second Panglong peace process, initiated by Aung San Suu Kyi, the issue of how to integrate the ethnic armies into a unified army and police force was a fundamental sticking point (Brenner 2019).

<sup>13</sup> Not only was the constitution drafted by the military, but its ratification through referendum was neither free nor fair and occurred only days after the devastating Nargis cyclone (Matelski 2024, 25-26).

2024, 26). In 2021, General Min Aung Hlaing could therefore claim that his coup was legitimate (Pedersen 2023, 43).

In 2011, General Than Shwe was succeeded by General Min Aung Hlaing as supreme commander of the armed forces and by General Thein Sein as president. The succession seems to have been consensual among the generals, but different fractions between hardliners and reformers emerged (Lall 2016). The opening policies under Thein Sein were no transition from 'repressive pariah to potential democracy' (Kurlantzick 2012). As Lall (2016, 3) correctly pointed out, the reforms were never meant to create a Western-style liberal democracy, but rather to develop a 'discipline-flourishing democracy'. The purpose of the reforms after 2011 was to restore economic growth without putting the system into question by liberalising the economy and broadening the fiscal space for the armed forces.

Nevertheless, different aspirations emerged between government and military. The government under President Thein Sein became the rallying point for civilian reform-oriented forces within the military, while the Tatmadaw under command of General Min Aung Hlaing supported extreme nationalist Buddhist movements and took a hard-line approach for preserving military power. Aung San Suu Kyi's National League of Democracy (NLD) and other parties were admitted to elections.

The hardline approach ran into an impasse after the 2015 elections, when the NLD won an overwhelming super-majority of 75% of seats in the combined national parliament. The democratic vote had given ultimate legitimacy to the government. The mandate of the heaven was replaced by the mandate of the people. Yet, this modern democratic view was incompatible with traditionalist hierarchy and the conflict was not solvable.

The 2011 regime change had led to the emergence of three poles of power in Myanmar: the military, the elected government, and the ethnic armed groups. The Tatmadaw's interests were the preservation of its status as the highest power. The ethnic groups sought peace by making ceasefire agreements. Some groups were able to develop 'ethnic capitalism' (Woods 2011) by military-private partnerships for exploiting the rich natural resources in the borderlands (Smith 2016, 81). The governments remained subordinated to the military by varying degrees, although it encouraged the creation of a new civil society<sup>14</sup> and the ceasefires enlarged its autonomy.

The competition for appropriating resources shifted the alliances frequently. For example, the Kachin ceasefire (1994-2011) was negotiated with the help of the Kachin Baptist Church in the hope of improving living conditions (Collignon 2017). But the military subsequently created new property rights for accessing the jade mines in Hpakant. The generals then sold these rights to their cronies. This undermined the trust between Kachin and the Tatmadaw to a point where the Kachin took up arms again in 2011. The threat of losing power became particularly acute for the military when Aung San Suu Kyi, as leader of the government after the 2015 elections, embarked on the 21st Century Panglong Conference with ethnic groups. A peace agreement would have undermined the Tatmadaw's claim to defend the unity of the

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<sup>14</sup> (Matelski 2024); (Lall 2016); (Dunford and Adikari 2023, 335) spoke of 'massive social changes that took place during the "transition period"'.

nation. Hence, the military blocked all progress in the negotiations and the peace processes never got anywhere.

The uneasy power balance between the NLD government and the military became clear during the Rohingya crisis in 2017.<sup>15</sup> Conservative hardliners had whipped up xenophobia, islamophobia, and Buddhist nationalism for several years. When the NLD-government embarked on the 21<sup>st</sup> Century Panglong Process with EAO, most of which were in the east, the army attacked the Muslim Rohingya minority in the west.<sup>16</sup> It was genocide (Blinken 2022). Aung San Suu Kyi was caught in a trap. By supporting the Muslim minority, she would have lost the support of the Burman nationalist majority. The military also threatened the NLD government with a coup.<sup>17</sup> Aung San Suu Kyi preferred to lose her moral credit with international supporters rather than the capacity of implementing gradual change by using the government inside Myanmar.

New elections took place in 2020 in the middle of the pandemic which had caused Myanmar's GDP to contract by approximately 3.2% in the fiscal year 2019/2020 (October-September). Poverty increased, and the NLD-led government stepped up efforts to protect the most vulnerable - many in ethnic minority areas such as Chin and Rakhine States (United Nations 2020). These transfers reduced the share of military spending in GDP, while aggregate GDP shrank. The Tatmadaw lost political influence and its resources were significantly impaired. After the landslide victory in 2020, Aung San Suu Kyi seemed intent to change the constitution and abolish the Tatmadaw's veto power. The coup d'état on February 1<sup>st</sup>, 2021, prevented that.

Since the coup, General Min Aung Hlaing has ruled as the chairman of the State Administration Council (SAC), and he has appointed himself as Prime Minister. The autonomy of the official government has disappeared again. However, the civil society, which had cooperated with the NLD government before, has now set up a shadow government, the National Unity Government (NUG) (Pedersen 2023, 47). The NUG has forged a successful coalition with the ethnic armed organisations. Despite having killed at least 5,467 civilians and arrested more than 27,000 others between 2021 and late July 2024, the junta has lost control of territory and townships covering 86% of the country (Bloomberg, 2023).

### The economy under military rule

These political shifts stand in their economic context. After 1988, Myanmar moved from Burmese Socialism to unfettered capitalism. While political repression became more severe, the military junta declared the adoption of a market-oriented economic system. The government encouraged private-sector enterprises and permitted foreign investment in the country. The early years of Than Shwe's reign showed an improvement of economic growth (see below Figure 1), but in the second half of the 2000s the growth rate was halved again. The liberalising policies under Thein Sein and later the NLD stopped it from falling

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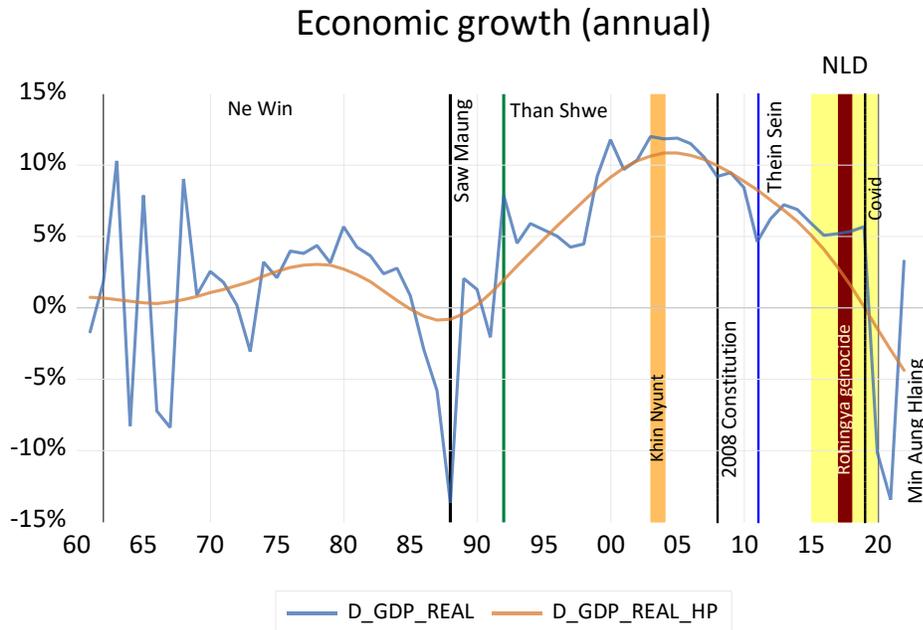
<sup>15</sup> The expulsion of the Rohingya took place in 2017, but the economic consequences only appeared a year later.

<sup>16</sup> (van der Maat and Holmes 2023) have shown the intra-Tatmadaw rivalries which have led to the genocidal violence.

<sup>17</sup> Allegedly, there were reports that when ASSK went to The Hague to defend the military against charges of genocide, the Tatmadaw had encircled the two major towns Yangon and Mandalay as a sign of making a coup if she did not protect the Generals.

further until Covid struck. The epidemic and the Coup in February 2021 reduced GDP dramatically. See Figure 1.

**Figure 1.**



Macroeconomic instability has defined the Burmese economy. Inflation was high and volatile; under the SLORC/SPDC-regime it exceeded 20% on average. See Table 1. With the economic reforms after 2011, price stability came within reach, although inflation climbed to 27% after the 2021 coup. It was caused by government deficits that were nearly exclusively financed by money creation (Collignon 2018). A government bond market was only formally launched in 2015 under the NLD-led government.

**Table 1.**

Average annual consumer price inflation						
	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
1960-2023	13.4	8.4	57.1	-6.0	13.6	64
Ne Win 1962-1988	8.1	5.3	31.7	-6.0	11.1	27
Saw Maung 1989-1992	24.8	24.6	32.3	17.6	6.4	4
Than Shwe 1992-2011	22.2	21.5	57.1	-0.1	15.5	20
Thein Sein 2011-2015	5.3	5.0	9.5	1.5	2.8	5
NLD 2015-2020	6.5	6.9	9.5	2.3	2.7	6
Min Aung Hlaing 2021-2023	19.0	20.1	27.2	9.6	8.9	3

Source: World Bank FP.CPI.TOTL.ZG)

Two sectors drove the boom of the 1990s. The first was the accelerated exploitation of natural resources. The recorded value of exports of gas, oil, coal, jade, gems, metals, and wood made up about 70 percent of national exports, or about 10 percent of GDP in 2012-13 (Oye and Lynn 2014). However, official GDP statistics vastly underestimate the economic and social importance of natural resources. Direct

contributions to economic production are undervalued due to illicit and informal use of natural resources especially timber and precious stones. Estimates by the World Bank (2019) put the value of unlicensed or illegal timber exports at four times the documented value. More about this below.

The drug trade has also been central to the civil war in Myanmar. Although production is mainly in ethnic territories, the Tatmadaw has reaped rents from the drug trade (Meehan 2011). The country is the world's second-largest opium poppy grower. Since 2021, narcotics production by 33% (U.N. Office on Drugs and Crime (UNODC) 2023 January). In Shan State cultivation went up by 39%, and in Chin and Kayah states by 14% and 11% respectively. Official estimates for the value of opium production in Myanmar range around US\$2 billion (1.5% of GDP) which seems too low, given that it benefits neighbouring countries by up to US\$10 billion. Inside Shan State, the ethnic United Wa State Army (UWSA) is a leading producer in Amphetamine (Lintner 2021).

The second driver of economic growth was the informal sector with very small enterprises. The formal sector consisted of 126 958 enterprises in 2011, of which only 721 were large but the informal sector was five times as large with 620 000 enterprises amounting to 83 percent of the total. However, the early economic reforms were badly designed, incoherent, and creating a highly corrupt business environment where the military favoured the emergence of wealthy cronies. Two organisations - Myanmar Economic Corporation (MEC) and Myanmar Economic Holdings Limited (MEHL) - have become a key source of wealth for the Tatmadaw, with stakes in everything from banking and mining to tobacco and tourism. Several military leaders and their families hold extensive business interests and have been subject to international sanctions.<sup>18</sup> Excessive bureaucracy and military interferences hampered the development of small and medium sized enterprises. Due to insufficient regulation, the banking system collapsed in 2003 (Turnell 2003) which affected growth negatively.

With the legitimacy of a semi-democratic government after 2011, international organisations and experts from the diaspora returned. Myanmar became attractive for foreign investors. FDI increased from 2.2% in 2012 to 7.2% of GDP in 2017. See Figure 2. But when sanctions were imposed following the Rohingya genocide in 2017 after the 2021 coup, capital inflows dried up and FDI fell back below 2% of GDP. Interestingly, remittances also increased from 0.15% to 3.9% of GDP between 2009 and 2018, largely because of migrant worker programmes between the Thai and Burmese government.<sup>19</sup> The flow of remittances is also positively correlated with the number of refugees. FDI and remittances both reflect greater openness to foreign economies but from a different perspective: FDI indicates the attractiveness for foreign capital, while remittances show personal income transfers from migrants to households at home. Both FDI and remittances are sources of foreign change reserves, which according to the cross-country literature are one factor in determining coups (Cebotari, et al. 2024). However, Myanmar shows that the two components must be kept separate. FDI uses the official banking system and therefore benefits the government and the military, while private remittances are direct income support to

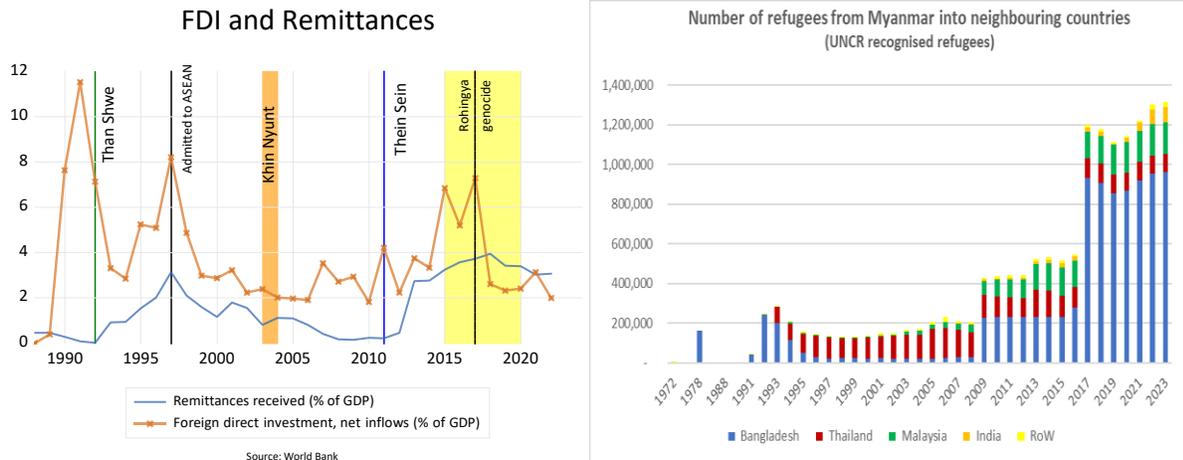
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<sup>18</sup> [Myanmar coup: The shadowy business empire funding the Tatmadaw \(bbc.com\)](https://www.bbc.com/news/world-asia-2012-12-12) According to the Corruption Perception Index Myanmar ranked as 172 most corrupt country out of 180 countries in 2012. By 2019 it had improved to rank 130, but since the 2021 coup the position has deteriorated again to 162.

<sup>19</sup> Today more than 4 million Myanmar citizens work and live in Thailand.

households that is transmitted by the unofficial hundi system outside of government control (Sobiech, Collignon and Zau Tu 2024).

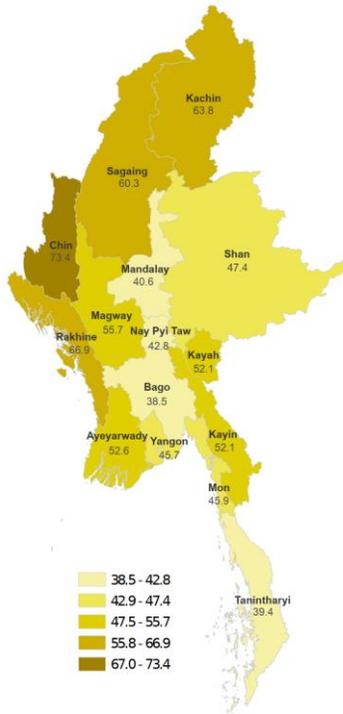
Figure 2.



Strong economic growth has contributed to significant poverty reductions. Unfortunately, long time series for poverty data are not available, but according to the World Bank (2022) poverty declined substantially between 2015 and 2017. Growth in average consumption caused almost the entire reduction in poverty. The States and Regions with deepest and most widespread poverty are Chin, Rakhine, Kachin and Sagaing where civil war has been most violent since the 2021 Coup. See Figure 3 and Table 2. However, first the Covid pandemic and then the 2021-coup have erased a decade of poverty reduction in a matter of two years (UNDP 2024). The World Bank estimates that poverty in 2022 doubled compared to March 2020. About 40 percent of the population in Myanmar are now living below the poverty line. Based on the sketchy data from World Bank and UNDP, I estimate that the elasticity by which economic growth has reduced headcount poverty was in the order of 0.3 to 0.5 before the crisis, but close to 0.9 percent when growth went into reverse.

Figure 3. Myanmar Regions and States: Poverty and Civil War

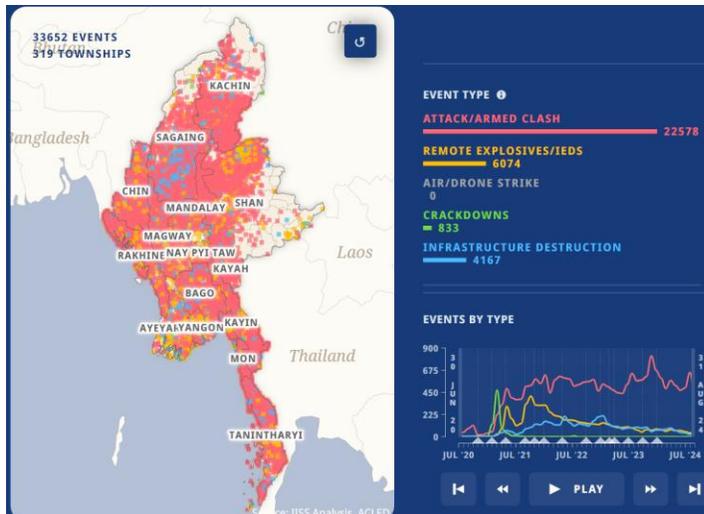
Poverty headcount by state / region



Poverty by State and Region							
	Poverty Headcount (%)			Poverty depth (%)			
	PH 2017	PH 2022	PH 2023		PD 2017	PD 2022	
National	24.8	46.3	49.7	National	5.2	18.5	24.4
Rural	30.2	49.9	52.9	Rural	64	18.3	23.1
Urban	11.3	37.2	41.8	Urban	2.3	19.2	27.9
Chin	58	71.5	73.4	Chin	18.7	28.4	33.1
Rakhine	41.6	63.6	66.9	Sagaing	6.4	22.2	30.3
Sagaing	30.7	57	60.3	Kachin	10	24.4	29.5
Kachin	36.6	59.7	63.8	Magway	7.6	22.6	28.9
Sagaing	30.7	57	60.3	Rakhine	7	22.5	28.5
Magway	35.6	53	55.7	Tanintharyi	2.5	22.5	28.5
Ayeyarwady	31.7	50.6	52.6	Tanintharyi	2.5	22.5	28.5
Kayah	32	49.6	52.1	Yangon	2.7	18.8	26.8
Kayin	24.2	48.8	52.1	Mon	4.2	16.1	24.4
Shan	28.6	43.6	47.4	Kayin	4.1	18	23.8
Mon	19.2	42.3	45.9	Ayeyarwad	6.3	18.8	22.8
Yangon	13.7	41.9	45.7	Mandalay	2.3	15.9	22.8
Nay Pyi Taw	22.1	39.8	42.8	Kayah	8.4	17.2	22.7
Mandalay	13.2	36.8	40.6	Shan	6.8	15.8	19.2
Tanintharyi	13.2	34.5	39.4	Nay Pyi Tav	4.1	14.7	19.1
Bago	17.4	34.1	38.5	Bago	3.8	12.7	16.9

Source: UNDP (2024)  
The national poverty line was 1590 Kyats a day (2023)

The state of civil war (October 2024)



Source: [Dashboard - IISS Myanmar Conflict Map](#) (accessed 6 October 2024)

## Modelling conflict in Myanmar

How can we explain the shifting power balances between the Tatmadaw, the EAOs and the government that led to changes in cease-fires, battle-related deaths, and 15 years of slow, incomplete liberalisation, and ultimately to the coup of 2021? Much of the literature on conflicts has treated ceasefires and peace negotiations as a bilateral, dyadic process: as the belligerents interact with one another and gain information about their mutual strength on the battlefield, they become more or less likely to negotiate (Dudley 2023). However, when natural resources are depleted, combatants must consider the future cost and benefits of war (Axelrod 1981) and alternative sources for wealth creation become attractive.

In contest models armed conflicts occur in lawless settings, where predation and defence are alternatives to directly productive activities (Blattman and Miguel 2010, 9). Two competing parties allocate resources to *appropriation versus production*. Production is described in the standard manner with production functions, but appropriation is a form of rent seeking that uses a 'contest success function' where inputs such as 'guns' or arms translate into the relative probability of winning the war and consuming the opponent's economic production in addition to their own.<sup>20</sup> Contest models predict that the odds of winning increase with the relative effectiveness of one side's fighting technology. Hirshleifer (2001), however, observed a 'paradox of power' whereby poorer or weaker contenders often gain from conflict at the expense of richer or stronger opponents because the weaker contender will fight harder. Despite military effectiveness deteriorating continuously, the Tatmadaw has bounced back every time it has been in disadvantage relative to the EAOs. At the same time, the EAOs require less resources to keep the balance of power in their favour.

The applicability of standard contest models to Myanmar needs to be modified. First, instead of a two-sector model, I introduce the government as a third pole between the military and the ethnic armed groups. Second, the models assume unitary actors, but neither the Tatmadaw, nor the ethnic groups are homogeneous. There were conflicts between hardliners seeking more direct appropriation of resources (General Min Aung Hlaing) and liberalisers aiming for higher economic growth (President Thein Sein). The alliance of the government with factions of the Tatmadaw and EAOs explains the shifts in the balance of power. External factors have also frequently shifted this balance. Especially China has funded both EAOs and Tatmadaw for many decades by legal and illegal trade. I have no way to evaluate this input, but the effect has reinforced the volatility of the balance of power. Third, a stable, stationary equilibrium never occurred. Instead, the intensities of conflict varied substantially over time.

In the following three actor model the contested 'prize' is access to wealth, which the Tatmadaw needs to preserve its hierarchical status in society and the ethnic groups need to close the poverty gap. The probability of 'winning the prize' is proportional to the wealth distribution. Wealth is obtained by directly appropriating natural resources or indirectly by obtaining transfers from the government budget. I will first describe the partial equilibrium for resource appropriation by each contestant, and then formulate the general equilibrium where economic growth brings the resource appropriations of the two combatants into balance. In general equilibrium, neither contestant party seeks greater wealth at the expense of the

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<sup>20</sup> The classical papers are (Hirshleifer 1988), (Hirshleifer 1989), (Skaperdas 1996). For a textbook exposition, see (Anderton, H. and Carter 2019 )-

other side. Both sides are then reaping a fair share of the economic growth dividend. However, if economic growth is a stochastic variable, the equilibrium is not stable and the balance of power between both parties will shift. Control of the government will then be a critical variable for the distribution of wealth because controlling the government, or forming an alliance with it, makes it possible to access resources through the government budget.<sup>21</sup>

### The government

Government means the institution that implements policies and regulations. It determines the long run economic capacity for *producing* aggregate income. The efficiency of government  $G$  determines potential output,

$$(1) \quad Y = f(G)$$

and changes in this factor set the trend growth rate

$$(1a) \quad f_G = \Delta y$$

The long run full capacity growth rate  $\Delta y$  reflects the full set of standard growth theory variables.

### The Tatmadaw

The military *appropriates* resources by dominating the state and repressing the EAOs.<sup>22</sup> We measure resource appropriation by the military ( $MA$ ) as a function of the appropriation share ( $m$ ) and GDP ( $Y$ ). The share has two components. It consists of natural resources directly appropriated by the Tatmadaw (such as illegal logging, mining, drug production, or corporations owned by the military leaders) and of revenue allocated through the government's budget.

First, we look at the stock of natural resources ( $NR$ ). Its ratio relative to GDP is  $\Psi = \frac{NR}{Y}$ . The share of appropriation by the military of these resources is  $\rho$  and the rent appropriated by the Tatmadaw relative to GDP is:

$$(2a) \quad r_m = \rho\Psi.$$

The rent contribution to military income therefore falls when natural resources are depleting ( $\Delta r_m = \rho\Delta\Psi < 0$ ).<sup>23</sup> For future reference we also note that  $(1 - \rho)$  is the share of natural resources appropriated by ethnic armed organisation (EAOs). Hence, the ratio  $\frac{\rho}{1-\rho}$  signals the relative weight in the distributional conflict over natural resources.

Second, the Tatmadaw's share of revenue from the budget depends on the fiscal capacity of the government and the budget allocations to the military. We define the fiscal capacity as the ratio  $\Phi$  of

<sup>21</sup> I do not consider the government an actor in the civil war. Most of the time the Burmese government was a handmaiden to the Tatmadaw. The election of the NLD government under the leadership of Aung San Suu Kyi shifted the locus of sovereignty from the military to the people which opened the path to a potential alliance with ethnic minorities. However, this option was blocked by the military coup of 2021.

<sup>22</sup> On rent seeking see (Rowley, Tollison and Tullock 1988); on appropriation see (Anderton, H. and Carter 2019).

<sup>23</sup> It is likely that  $\rho$  also diminishes with  $\Psi$  but for simplicity we will not model this case.

government spending ( $GS$ ) to GDP ( $\Phi = \frac{GS}{Y}$ ) and the share of the budget going to the military as  $\mu$ . Thus,  $(1 - \mu)$  is the budget share for spending on civil tasks, such as health and education which are the largest non-military items in the government budget.

Hence, the share of fiscal transfers from the government to the Tatmadaw relative to GDP is:

$$(2b) \quad \Phi_m = \mu\Phi$$

The total share of military spending to GDP is:

$$(2c) \quad m = r_m + \Phi_m$$

Hence, on the supply side, the total appropriation by the military is:

$$(3) \quad MA^s = mY = (r_m + \Phi_m)Y = (\rho\Psi + \mu\Phi)Y$$

The demand for resource appropriation by the military depends on the military's objectives measured in terms of battle-related deaths ( $BD$ ) and the effectiveness of the available military technology. We assume this to be an exogenous parameter.

$$(3a) \quad M^{eff} = \frac{BD}{MA} \rightarrow MA^d = \frac{BD}{M^{eff}}$$

The demand for resources by the Tatmadaw increases as military efficiency falls. Figure 8 below shows that the Tatmadaw's efficiency has continuously deteriorated, which has led to increasing demands for resource appropriation.

In equilibrium the supply of resources must match the demand. To understand the dynamics, we take logs and first differences and get the growth rate of military appropriations as:

$$(4) \quad \Delta MA^s = \Delta m + \Delta Y = \Delta m + \Delta y + \Delta p = \Delta(r_m + \Phi_m) + \Delta y + \Delta p$$

Whether the military can expand its capacity to fight depends on the balance between economic growth ( $\Delta y$ ) plus the inflation tax ( $\Delta p$ ) and the degree to which dwindling rents from natural resources  $r_m$  are compensated by a larger budget share from the government [ $\Delta(r_m + \mu\Phi)$ ].

The Tatmadaw's military objectives and effectiveness drive the demand for additional military resources.

$$(4a) \quad \Delta MA^d = \Delta BD - \Delta M^{eff}$$

In equilibrium, the Tatmadaw requires an economic growth rate that balances the eventual shortfall of appropriations from natural resources and fiscal transfers with its military objectives:<sup>24</sup>

$$(4b) \quad \Delta y_m = \Delta BD - \Delta M^{eff} - \Delta m - \Delta p = \Delta BD - \Delta M^{eff} - \Delta(r_m + \Phi_m) - \Delta p$$

This equation presents several options for the Tatmadaw. Given military technology, i.e.  $\Delta M^{eff} = 0$ , the more brutal the military objectives are ( $\Delta BD > 0$ ), the higher must be the depletion of natural resources or the capture of the state to extract higher fiscal transfers. If growth slows down, inflation must fill the

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<sup>24</sup> The nominal growth rate is  $\Delta Y = \Delta y + \Delta p$

gap. This happened after the military coup in 2021. Assuming a more benevolent scenario in the previous years where the number of battle-related deaths and military technology remained constant, the Tatmadaw could choose a policy mix between higher growth, expanding its budget share, and the inflation tax. The last two options required the control of the government (fiscal and monetary policy). Under Than Shwe, the inflation tax was the preferred instrument, Khin Nyunt tried to bring the death rates down by making ceasefires, and Thein Sein sought to improve economic growth. The NLD-led government worked to bring growth up, inflation down and to expand the civil budget.

### The Ethnic Armed Organisations

The EAOs operate in high poverty, low-income regions (see Figure 3 and Table 2). James Scott (1976) famously has shown that anti-colonial resistance in Southeast Asia was a function of the risk that peasant income would fall below subsistence level. I adopt this idea by making the efforts for contested ethnic appropriation a function of the poverty headcount in the region. The larger and deeper the poverty gap, the stronger are the incentives to fight for access to higher wealth. The ethnic groups have two options: exploiting the natural resources from their regions (forests, precious stones, drugs, and even hydroelectric energy), or improving economic growth and link it to redistributive government policies which for them is the purpose of federalism.

As mentioned above, the share of natural resources appropriated by ethnic groups is  $(1 - \rho)$ , so that their rent income is

$$(5a) \quad r_e = (1 - \rho)\Psi.$$

As for redistributive policies of the government,  $(1 - \mu)$  is the budget share for spending on civil tasks, such as health and education. However, how much of this spending will go to ethnic populations depends on the constitutional provisions for fiscal federalism. Let us denote the share of fiscal transfers to the ethnic regions by  $0 \leq \tau \leq 1$ . Hence, the share of fiscal transfers from the government to the EAOs relative to GDP is

$$(5b) \quad \Phi_e = \tau(1 - \mu)\Phi$$

If  $\tau = 0$ , the ethnic populations would receive nothing, if  $\tau = 1$  they would receive all government funds. A fair distribution  $\tau^*$  would be according to the share of population, thus approximately  $\tau^* = 0.4$ .

The supply of material resources available to the ethnic groups is the mirror of equation (3)

$$(6) \quad EA^s = (r_e + \Phi_e)Y = [(1 - \rho)\Psi + \tau(1 - \mu)\Phi]Y$$

Thus, the material capacities of the ethnic groups are smaller, the higher the claims by the Tatmadaw for natural resources ( $\rho$ ) and military spending in the government budget ( $\mu$ ), although the government has some leeway to modify this by the proportion of fiscal transfers ( $\tau$ ).

The ethnic demand for real resources  $EA^d$  is a function of the absolute amount of the poverty gap  $|PG|$ . The higher the degree of poverty, the higher is the demand for resources. These resources are valued at current prices  $P$ .

$$(6a) \quad EA^d = P |PG|^e$$

To show a positive correlation between ethnic resistance and poverty we take the absolute amount of the poverty gap because according to its standard definition the sign is negative:

$$(6b) \quad PG = \frac{1}{N} \sum_j^q \left( \frac{z - y_j}{z} \right)$$

where  $N$  is the total population,  $q$  is the number of poor, living at or below the poverty line  $z$ ,<sup>25</sup> and  $y_j$  is their income. Hence, below the sustainability level  $z$ , the poverty gap is negative.

$e$  is a coefficient that expresses the commitment of ethnic groups to defend their interests by armed resistance. I assume for simplicity that it is a linear function of the deviation of transfers from the fair distribution. We may call this the fairness gap.  $a$  is the slope of the function which indicates the sensibility to injustice.

$$(6c) \quad e = f(\tau) = a(\tau^* - \tau)$$

When fiscal transfers to the minority are below the level considered fair, i.e., when  $\tau^* > \tau$ , EAOs will take up arms to appropriate resources and reduce poverty.

The dynamics of ethnic supply and demand for resources are described by the first differences of logged variables

$$(7a) \quad \Delta EA^s = \Delta(r_e + \Phi_e) + \Delta Y = \Delta[(1 - \rho)\Psi + \tau(1 - \mu)\Phi] + \Delta y + \Delta p$$

$$(7b) \quad \Delta EA^d = a(\tau^* - \tau)\Delta \ln|PG| + \Delta p$$

Because of (7a), the ethnic resource demand is reduced when the government increases transfer payments  $\tau(1 - \mu)\Phi$ . We also note that *ceteris paribus* the demand for ethnic resource appropriation falls when the poverty gap shrinks  $\Delta \ln|PG| < 0$ . There is a well-established negative correlation between poverty and economic growth, so that the poverty gap ( $z - y_j$ ) varies with aggregate income in society.<sup>26</sup> If economic growth is positive, incomes will increase and the number of the poor population will fall. Thus, the gap can be narrowed by economic growth, or by increased transfers, or because the poor population  $q$  shrinks as people take refuge in neighbouring countries. If migrants send back remittances, they increase the income earned by local population and this would reduce the poverty gap as well. If we disregard migration, the relation between growth, transfers and poverty can be described by the elasticity:<sup>27</sup>

$$(7c) \quad \varepsilon = \frac{\Delta \ln|PG| + \Delta \tau}{\Delta y} < 0 \quad \rightarrow \quad \Delta \ln|PG| = \varepsilon \Delta y - \Delta \tau$$

<sup>25</sup> The poverty line  $z$  can be defined in fixed terms, like the World Bank's Extreme poverty of \$2.15 per day, for lower middle income of \$3.65 per day and upper middle income of \$6.85 per day (World Bank 2023). The UNDP calculate the national poverty line in Myanmar as 1590 kyat per day (roughly 1.17 USD per day). Alternatively, it can be defined as 60 % of the median income. For simplicity, we stick to a fixed amount.

<sup>26</sup> The relationship is much clearer for poverty and growth than for inequality and growth (Cerra, Lama and Loayza 2021).

<sup>27</sup> Because  $PG < 0$ , the growth rate of the absolute amount of  $|PG|$  is negative when the poverty gap is reduced. Hence the elasticity by which growth reduces the poverty gap is positive and the elasticity by which growth reduces the absolute amount of the poverty gap is negative.

Equation (7b) then becomes

$$(7d) \quad \Delta EA^d = a(\tau^* - \tau)(\varepsilon \Delta y - \Delta \tau) + \Delta p$$

With higher economic growth, demand for resources to fight the civil war is reduced.

In equilibrium the demand for additional resources matches the supply. If we assume that in the short run transfer shares do not change  $\Delta \tau = 0$ , we get

$$(8) \quad \Delta EA^d = \Delta EA^s \leftrightarrow \Delta[(1 - \rho)\Psi + \tau(1 - \mu)\Phi] + \Delta y + \Delta p - a(\tau^* - \tau)\varepsilon \Delta y - \Delta p = 0$$

This reduces to

$$(8a) \quad \Delta y_e = -\frac{1}{1 - \varepsilon a(\tau^* - \tau)} \Delta(r_e + \Phi_e) = -\frac{1}{1 - \varepsilon a(\tau^* - \tau)} \Delta[(1 - \rho)\Psi + \tau(1 - \mu)\Phi]$$

In equilibrium the economic growth rate keeps the additional demand and supply of resources by EAOs in balance. Larger shares for the Tatmadaw from resource appropriation or fiscal transfers ( $\rho\Psi$  or  $\mu\Phi$  increase) require a higher economic growth rate for the ethnic groups. If resources are depleting, the growth of GDP must also make up for the uncompensated loss of natural rent income. The coefficient  $\frac{1}{1 - \varepsilon a(\tau^* - \tau)}$  indicates how strongly the economic growth rate would have to increase to keep EAOs' demand and supply for resources in balance, when the Tatmadaw increases its appropriation share. This factor depends on the economic structure regarding poverty reduction  $\varepsilon < 0$ , the size of the fairness gap  $(\tau^* - \tau) > 0$ , and the political sensitivity to injustice is  $a > 0$ . Because  $\varepsilon < 0$ , the larger is the elasticity by which growth reduces poverty, the lower can be the growth rate. Higher transfers have the same effect.

### General equilibrium

When neither side of the two belligerents seeks to appropriate additional resources, the system is in general equilibrium. This equilibrium can be interpreted as 'peace' where each side considers it receives a fair share of wealth. Thus,

$$(9) \quad \Delta MA = \Delta EA$$

Combining (4b) and (8a) we get

$$(9a) \quad \Delta BD - \Delta M^{eff} = \Delta(r_m + \Phi_m) - \frac{1}{1 - \varepsilon a(\tau^* - \tau)} \Delta(r_e + \Phi_e)$$

Given the equilibrium growth rates of the Tatmadaw and the EAOs and equation (4a), the Tatmadaw will seek no additional resources  $\Delta BD - \Delta M^{eff} = \Delta MA^d = 0$  if:

$$(9b) \quad \Delta(r_m + \mu\Phi) = \frac{1}{1 - \varepsilon a(\tau^* - \tau)} \Delta[r_e + \tau(1 - \mu)\Phi]$$

To make things more readable, I define:

$E_qMA = \Delta(r_m + \mu\Phi)$  as the Tatmadaw's resource appropriation in general equilibrium

$E_qEA = \Delta[r_e + \tau(1 - \mu)\Phi]$  as the EAOs' resource appropriation in general equilibrium

And  $k = 1 - \varepsilon a(\tau^* - \tau)$  as the balancing coefficient.

Hence, we have  $EqEA = k * EqMA$  and

$$(9c) \quad \frac{EqEA}{EqMA} = k = \frac{\Delta[r_e + \tau(1-\mu)\Phi]}{\Delta(r_m + \mu\Phi)} = 1 - \varepsilon a(\tau^* - \tau)$$

Equation (9c) describes a steady state general equilibrium. The ratio of the rates of change in the sum of resource rents and fiscal transfers to the EAOs and the Tatmadaw then reflect the ethnic grievances about the fairness gap and the efficiency of the government's poverty reducing policies. The higher the coefficient  $k = 1 - \varepsilon a(\tau^* - \tau)$ , the higher will be the equilibrium rent seeking by the EAOs. Only after closing the fairness gap ( $\tau^* = \tau$ ) will the resource claims by ethnics and the military grow at the same rate. A well-thought-out federalist constitution could contribute to that.

The larger the fairness gap  $a(\tau^* - \tau)$ , the larger will be the need for higher growth. This raises the following question.<sup>28</sup> Since violence is costly and the contestants know that it is costly, could they find an agreement to avoid the violence and share gains from reduced violence? The military could buy out the EAOs just enough for them to abstain from violence, so that  $\tau^* = \tau$ . This is the logic behind the ceasefires. However, such agreements have never represented a stable equilibrium because, as equation (8a) reveals, the equilibrium is a function of the potential growth rate. If this rate is subject to stochastic shocks, the equilibrium will be randomly disturbed, starting a new cycle of violent action and defence. This is supported by evidence. Figure 5(c) below shows that ceasefire agreements were more likely in years when the expectations for economic growth were stable.

In general equilibrium neither side has an advantage over the other. When both Tatmadaw and EAOs are able to meet their own supply and demand of resources and the balance of power is zero:

$$(9d) \quad BoP_e = EqMA - k * EqEA = 0$$

If  $BoP_e > 0$ , the EAOs have the advantage in resource appropriation. Inversely, if  $BoP_e < 0$ , the Tatmadaw has the advantage. General equilibrium does not require the closing of the fairness gap or concluding ceasefires with all EAOs. However, when  $k > 1$ , the Tatmadaw requires more resources than the EAOs and we find Hirshleifer's paradox of power.

### Estimating the balance of power

We now look at empirical evidence. I will first discuss the data and then calculate the balance of power between the Tatmadaw and the EAOs: It turns out that the number of battle deaths increases when the ethnic groups have the advantage. I will then estimate the likelihood of military coups and regime change. Interestingly, military coups are also more probable when the Tatmadaw is in a position of weakness.

### The data

Identifying variables to explain armed conflicts in Myanmar is difficult because the data are unreliable, mostly incomplete, and often covering only few time points. Nevertheless, some long time series exist,

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<sup>28</sup> I thank Charles Anderton to bring up this question.

and we can take them as proxies for educated guesses about underlying developments. I have used the World Bank database,<sup>29</sup> unless different sources are explicitly mentioned.

Civil wars are defined as counting more than 1000 battle-related deaths in a single year, while civil conflicts count more than 25 battle deaths (Gleditsch, et al. 2002). Figure 4 traces the number of people killed in conflicts with the Tatmadaw.<sup>30</sup> With this definition Myanmar has never been free of civil conflicts and has experienced full blown civil war since the 2021 military coup. The number of battle-related deaths fell during the ceasefire agreements in the second half of the 1990s and during the short stay of Khin Nyunt as Prime Minister. The Saffron revolution in 2007 was a sign of renewed civil conflicts which culminated before President Thein Sein took office. During the post-2011 period of liberalisation, fighting became highly volatile. This reflects the lack of political equilibrium between the three power poles when the balance of power shifted frequently.

**Figure 4.**

### Battle-related deaths and ceasefires

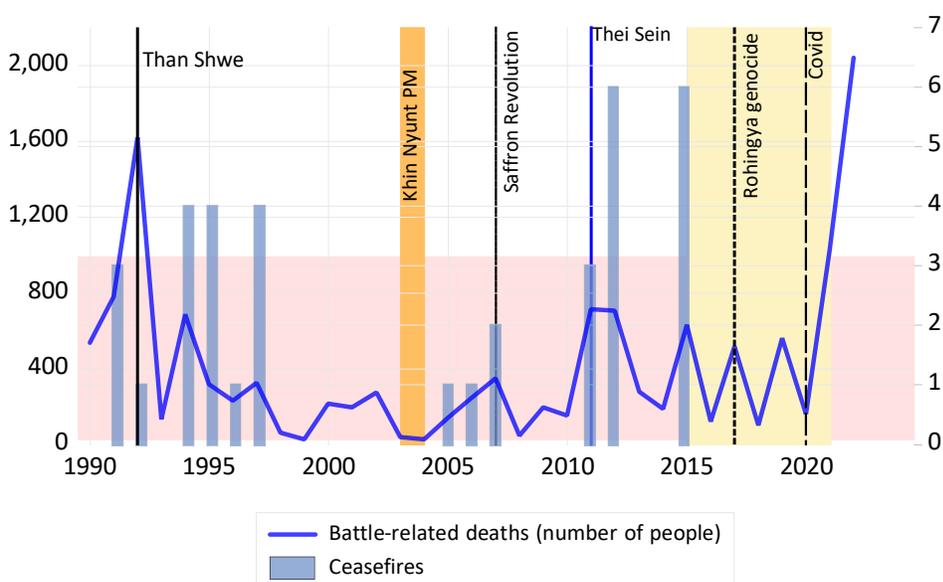


Figure 5 indicates that high numbers of battle-related deaths (a) and ceasefires (b) were correlated with low GDP growth rates. With higher economic growth, the intensity of civil war diminished. Less people were killed, and concluding ceasefires became less urgent. This is confirmed by Granger causality tests, which show that ceasefires and battle-related deaths followed from economic growth.<sup>31</sup> The polynomial regression line in Figure 5(b) has a higher  $R^2$  value than the linear trend (0.2252 instead of 0.2009). It

<sup>29</sup> [World Development Indicators | DataBank \(worldbank.org\)](https://data.worldbank.org/)

<sup>30</sup> I have used the World Bank series VC.BTL.DETH which is reproducing the equivalent data base from PRIO.

<sup>31</sup> The Granger causality test is not shown here but can be supplied on request.

indicates that ceasefires are most frequent when the growth rate is zero.<sup>32</sup> Hence, the Tatmadaw released resources for economic growth when the economy was stagnating. The last chart (c) confirms that ceasefire agreements were more likely when the volatility of economic growth was low. The conditional standard deviation of the growth rate measures the size of unexpected shocks to economic growth.<sup>33</sup> The graph shows that the frequency of ceasefires diminishes when the shocks to expected growth are larger. This confirms our hypothesis whereby the equilibrium of the balance of power is frequently disturbed by uncertainty about economic growth. I consider this effect of material uncertainty more important than the commitment problems mentioned in the conflict literature.<sup>34</sup>

**Figure 5. The impact of economic growth**

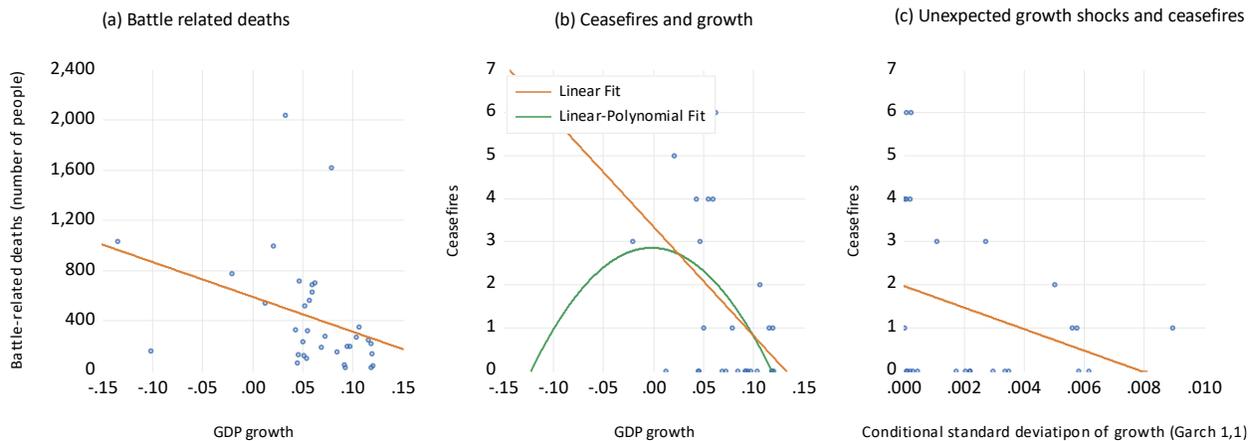


Figure 6 shows the share of military spending in GDP and the continuous deterioration of the Tatmadaw’s military effectiveness. However, these data are highly uncertain and should be taken with caution. I have used the SIPRI database for the amounts of military spending in local currency. For 2006 to 2010 data are lacking. To be able to use a consistent continuous time series for econometric estimates, I have therefore reconstructed two series, one simply closing the gap by linear extrapolation; the other by looking at the number for military staff and assuming that the spending per head of military personnel was increased by the rate of inflation. The linear series performed better in econometric estimates. Using nominal GDP data from the World Bank, we get a military expenditure share  $m$  of 4%, which is significantly lower than the 20% published by SIPRI, but consistent with other World Bank data.

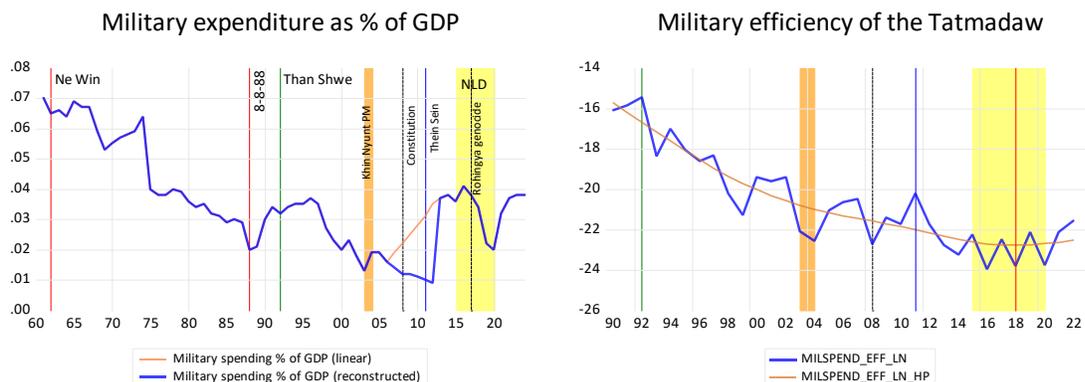
Military spending tended to fall relative to GDP during the Ne Win era, especially after the 1974 Constitution adopted a one-party state. After 1988, the SLORC increased military spending until it started to negotiate ceasefires. During the liberalisation period after 2011, military spending rose again. However, even if the share fell, the absolute amount of spending increased. Hence, economic growth benefitted the military, although diminishing returns lowered the efficiency of the military apparatus.

<sup>32</sup> The estimated polynomial is  $y = -197.76x^2 - 0.7171x + 2.8566$ . The maximum value of the equation is  $y = 2.857$  at  $x = -0.0018$ .

<sup>33</sup> The conditional standard deviation was estimated by a GARCH (1,1) model.

<sup>34</sup> See (Anderton, H. and Carter 2019 ) (Blattman and Miguel 2010); (Blattman 2023)

Figure 6.



How was the military funded? We do not have long run data for the government budget or expenditure. Nevertheless, the World Bank publishes a series for tax revenue. We know that government spending was always much higher (nearly double), financed by profits from State Owned Enterprises and money printing (Collignon 2018). Given that inflation was trend stationary with a negative trend between 1990 and 2023,<sup>35</sup> it is justifiable to take the tax/GDP ratio as a proxy for the government spending ratio  $\Phi$ . The difference between tax revenue and military spending stands for the civil society fiscal space, i.e.  $(1 - \mu)\Phi$ . Thus, when the NLD-led government shifted spending priorities toward civilian projects such as education and healthcare, it reduced budget transfers to the military.

Next, we need to find an indicator for fiscal transfers  $\tau$ . Nixon, et al. (2015 (March), 42) have observed that in the fiscal year 2013/14 the share of the Union budget transferred to state/region budgets was 3.9 percent and the region of Yangon 'was dramatically advantaged'. Even for a highly centralised state this seems too low. In a follow-up report, Shotton, Yee and Oo (2016 (September), p. vi) found that 'starting in FY 2016/17, the Internal Revenue Department (IRD) is sharing 15% of (non-import) commercial and special goods tax revenues with state/region governments, based on area of collection'. I will therefore generously assume that  $\tau = 0.15$ .

As discussed above, appropriating natural resource rents dominated the early phase of the conflict. We now need to assess the relative shares  $\frac{\rho}{1-\rho}$  claimed by the Tatmadaw and the Ethnic Armed Organisations. We do not have distributional data, although oil and gas were the monopoly of the government.<sup>36</sup> The drug trade benefitted both sides. However, natural resources have been depleted and this has lowered rent income for both sides. See Figure 7. I will assume that rents from oil and gas were fully appropriated by the Tatmadaw, and the forest rent was shared 50:50 between the two belligerent parties.

For the EAOs, illegal logging, mining precious stones and drugs were the primary source of income, although the Tatmadaw also participated in the rents from these resources. The Forest Trends Association in Washington DC reported that government-recorded timber production was only half of the FAO-recorded values based on import data in receiving countries. They took this as 'evidence of unaccounted

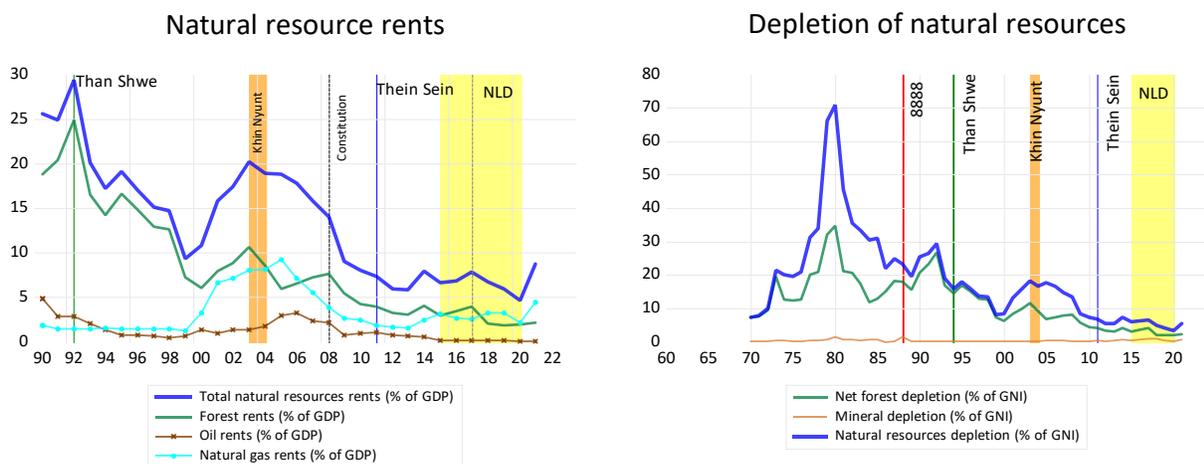
<sup>35</sup> The unit root test can be supplied on request.

<sup>36</sup> See also (Naw, Fishbein and Pilgaard 2021)

(or at least unreported) logs being laundered into the Union Government of Myanmar’s official supply chain’ (Forest Trends Association 2021 January, 36). It is impossible to say how much the Tatmadaw profited from this illegal trade. The report also claims that between the Fiscal Years 2011-19, ‘the government reported almost US\$3.4 billion in exports of forest products, of which 2 percent was reportedly across a land border’. This means that most of the illegal trade - especially with China - went through EAO-controlled border territory. Some of it was officially seized by the Tatmadaw and resold without being recorded in the official statistics. Given that the ethnic groups also traded in precious stones across the border (especially jade from Kachin to China), it seems defensible that the shares of Tatmadaw and EAOs in illegal trade were 50:50. Thus, the share for the Tatmadaw was the legal trade through the Myanmar Timber Enterprise plus half of the illegal trade. Therefore, our coefficient is  $\rho=0.75$  and the share for EAOs is  $(1 - \rho) = 0.25$ ; the ratio is in the order of  $\frac{0.75}{0.25} = 3$ .

The environmental, social, and infrastructure costs of resource extraction to the country are not systematically measured and informal extraction, especially in logging and mining, also makes depletion rates an unknown. Nevertheless, the World Bank publishes data on resource depletion and economic rents (see Figure 7), which I will use below as a proxy for resource use. We find that resource rents increased during the 1990s ceasefires, but with high depletion rates this came to an end in the decade before Their Sein came to power. This explains why policy objectives increasingly focussed on economic growth.

Figure 7.



### The balance of Power

Given these data, I have calculated our variables EQEA and EQMA. Figure 8 shows the time series, Table 3 presents the descriptive statistics. We note, first, that over the long run, rent seeking declined in Myanmar, although more so for the EAOs than for the Tatmadaw. This can be explained by the gradual depreciation of natural resources and by the improvement in taxation and macroeconomic stability after 2011. With the military coup in 2021, this has changed. Second, because the Tatmadaw was more dependent on rents from natural resources, their equilibrium growth rates were significantly more volatile.

Figure 8.

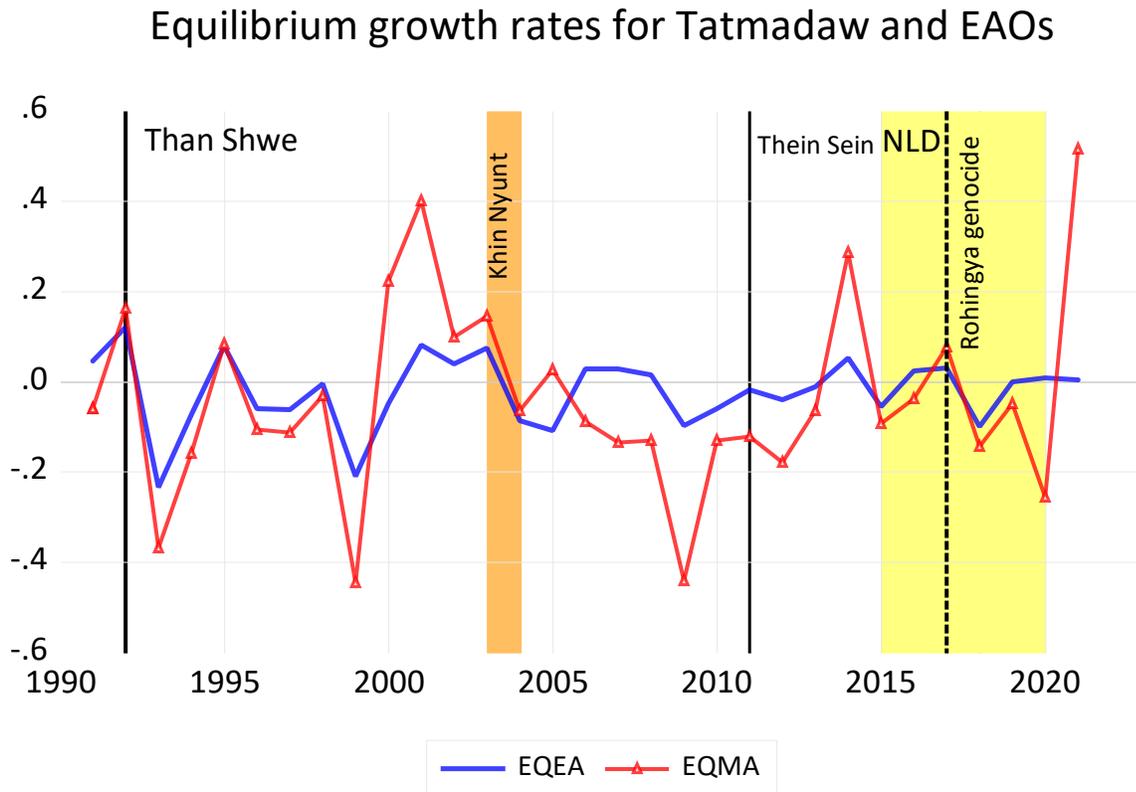


Table 3. Equilibrium growth rates of resource appropriation

**Descriptive statistics**

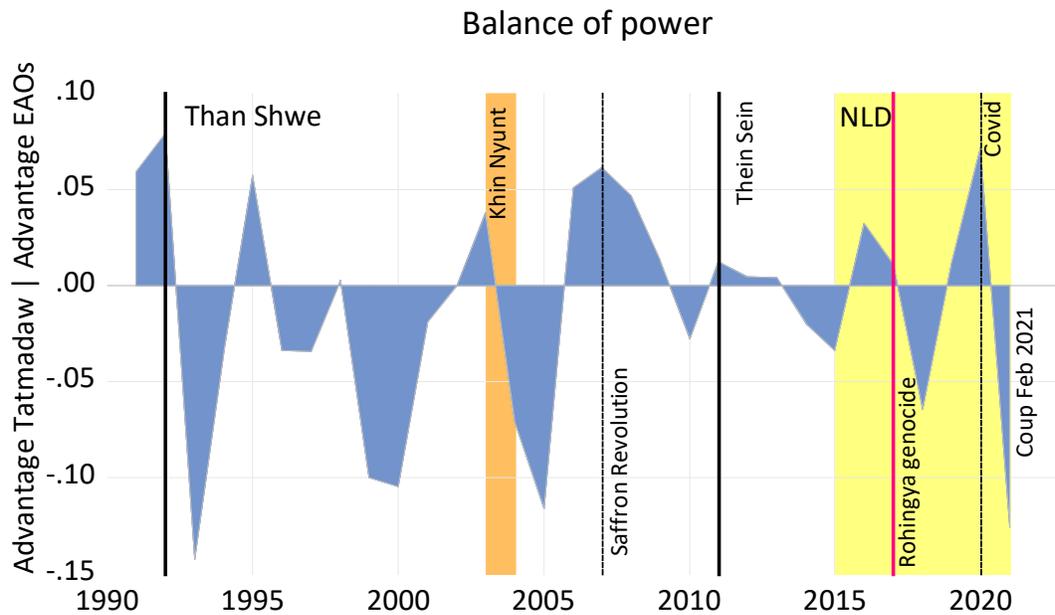
	EQEA	EQMA
Mean	-0.0214	-0.0396
Median	-0.0055	-0.0660
Maximum	0.1194	0.5141
Minimum	-0.2343	-0.4473
Std. Dev.	0.0798	0.2145
Skewness	-0.7797	0.4785
Kurtosis	3.6556	3.5814

To calculate the balance of power, we regress EQEA on EQMA. Dickey-Fuller unit root test indicate that EQEA is stationary, but EQMA has a break in 2001. I therefore add a dummy for 2001 and get the estimate shown in Table 4. The coefficient for EQMA is the inverse of  $k = 1 - \epsilon a(\tau^* - \tau)$  in equation (9c)). Hence, we can conclude that  $k = 4$ , so that in equilibrium the EAOs require only one quarter of the resources to match the power of the Tatmadaw. The residual of the estimated regression is the balance of power shown in Figure 9.

**Table 4. Estimation of the balance of power between Tatmadaw and EAOs**

Dependent Variable: EQEA				
Method: Least Squares				
Sample (adjusted): 1991 2021				
Included observations: 31 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EQMA	0.249298	0.05296	4.707312	0.00006
DUM_2002	0.013636	0.063316	0.215367	0.830988729
R-squared	0.3954	Mean dependent var	-0.021385119	
Adjusted R-squared	0.374552	S.D. dependent var	0.079786329	
S.E. of regression	0.063099	Akaike info criterion	-2.625875591	
Sum squared resid	0.115464	Schwarz criterion	-2.533360288	
Log likelihood	42.70107	Hannan-Quinn criter	-2.595717909	
Durbin-Watson stat	1.774761			

**Figure 9. The balance of power between Tatmadaw and EAOs**

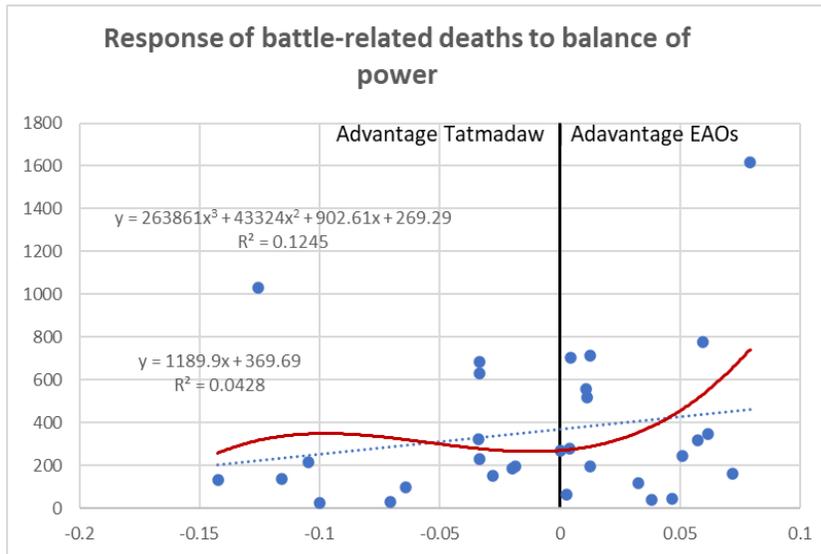


On average, the Tatmadaw had a modest advantage of -0.016 during General Than Shwe’s rule, but under Thein Sein and the NLD-led government the balance turned into a slight average advantage of 0.003 for the ethnic groups. The volatility also narrowed with the standard deviation falling from 0.064 to 0.037.<sup>37</sup>

<sup>37</sup> The estimates can be shown on request.

The response of battle-related deaths to the balance of power is not linear. When the Tatmadaw lost the advantage in resource appropriation (moving to the left in Figure 10), it became more brutal; when the advantage favoured the ethnics, the war became even more violent. The trendline is minimised when the balance of power was equal for the two sides.<sup>38</sup>

Figure 10.



### Estimating the likelihood of coups

These shifts show that the hardliners were losing out in the liberalisation period. Yet, in line with the Hirshleifer paradox, each time the anti-military coalition gained an advantage, the Tatmadaw was able to reduce it quickly. We can therefore conjecture that the different coups and place coups of the last 30 years were a response to the changing balance of power, and we can test this hypothesis formally.

I define a dummy variable for coups as in Table 5 which includes palace coups, the repression of the Saffron revolution, and the constitution of 2008. I consider that the Rohingya genocide by the Tatmadaw was a coup attempt against the civilian part of the government led by Aung San Suu Kyi.

Table 5. Dummy variables for military coups

J		Dummy for coups
Than Shwe	1992	1
Khin Nyunt	2003	1
Saffron	2007	1
Thein Sein	2011	1
NLD	2015	1
Rohingya	2017	1
Min Aung Hlaing	2021	1

<sup>38</sup> If we eliminate the two outliers above 1000 BD, the R<sup>2</sup> remains at 0.12.

To assess the odds of open military or internal palace coups occurring in Myanmar, I estimate a probit model with the following equation:

$$(10) \quad \Pr(C_i = 1) = N(X_i\beta + v_i)$$

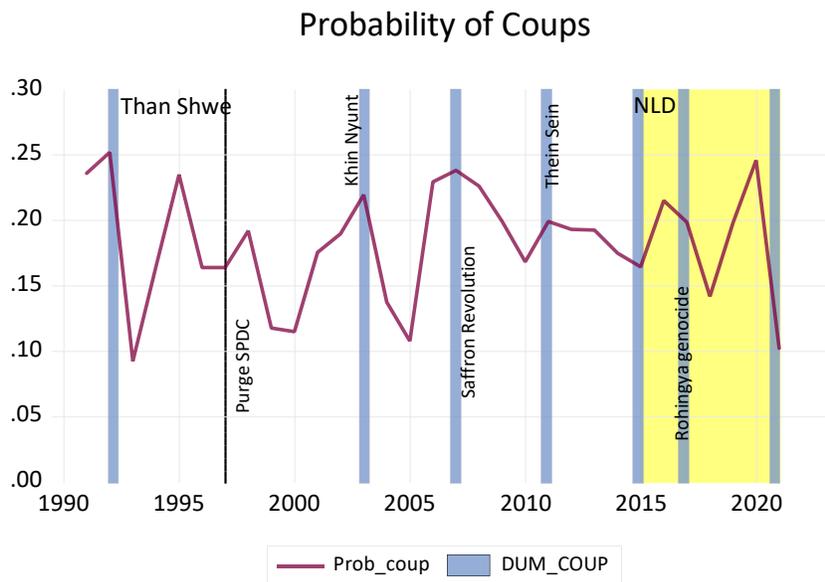
$v_i$  are i.i.d.,  $N(0, \sigma_v^2)$ , and  $N$  is the standard normal cumulative distribution function.  $C_i$  is our dummy variable that assigns the value 1 to the years when the military committed a coup and zero to all other years. The explanatory variable  $X_i$  is the time series for the balance of power.

The positive coefficient in Table 6 indicates that when the balance of power shifts in favour of the Ethnic groups, the odds of the Tatmadaw undertaking a coup are increasing, but the statistical significance of this coefficient is not high which is not surprising, given the shakiness of data from Myanmar. Nevertheless, the p-value indicates that the Tatmadaw will react by a coup with the probability of 63 percent. This is not certainty, but more than 50:50 probability. In Figure 11, I have converted the odds into probabilities. They match reasonably well with the actual events. Interestingly, we find that in the early 1990s tensions were high although no coup occurred – presumably (as discussed above) because Than Shwe purged the ruling junta (Win Min 2008). Thus, our estimates detect features which are often ignored. With the ascendancy of Khin Nyunt, tensions rose again, possibly because he made ceasefire concessions to the EAOs, but he was quickly removed from power. The Saffron Revolution was not strictly an ethnic rebellion, but a popular uprising caused by deteriorating living standards. Again, this deterioration has increased the likelihood of a military reaction. After Sein Thein became president, a few years of relative stability followed, but when the NLD under Aung San Suu Kyi's leadership acceded to partial participation in government, the situation became more fragile again. The Rohingya crisis undermined her legitimacy and shifted the balance of power back to the Tatmadaw (Figure 10). However, when Covid struck, the NLD-government shifted budget resources toward health and away from the military. This created the context for the 2021 coup, although the coup itself was triggered by the elections which the Tatmadaw lost.

**Table 6. Probit estimates for military coups**

Dependent Variable: DUM_COUP				
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)				
Sample (adjusted): 1991 2021				
Included observations: 31 after adjustments				
Convergence achieved after 3 iterations				
Coefficient covariance computed using observed Hessian				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
RESIDUAL_BOP	3.839504	4.302697	0.8923482	0.372206
C	-0.72584	0.253529	-2.8629465	0.004197
McFadden R-squared	0.024854	Mean dependent var	0.225806	
S.D. dependent var	0.425024	S.E. of regression	0.425256	
Akaike info criterion	1.170799	Sum squared resid	5.244436	
Schwarz criterion	1.263314	Log likelihood	-16.1474	
Hannan-Quinn criter.	1.200957	Deviance	32.29477	
Restr. deviance	33.11788	Restr. log likelihood	-16.5589	
LR statistic	0.823109	Avg. log likelihood	-0.52088	
Prob(LR statistic)	0.364273			

**Figure 11.**



**Conclusion**

Our study of civil conflict and war in Myanmar has found an answer why 60 years of conflict do not end even when the warring parties are in a disadvantaged position. The reason is the cultural commitment by the Tatmadaw to the hierarchy of the Buddhist state and the high poverty in ethnic minority regions. Myanmar suffers less from the inheritance of colonialism but mostly from the post-independence regime, which created a Burmanized narrative where non-Burmese were subjects of Burma’s King and later the military government (Eh Htoo and Waters 2024, 38).

Fighting against poverty, discrimination, and preserving ethnic identities has justified the contestation by the Ethnic Armed Organisations. The fairness gap has sustained the contest, even when the balance of power was disadvantageous. Gehrmann (2019) has argued that peace can be interpreted as a stationary equilibrium of military capabilities, and the contest literature has emphasised that commitment issues often prevent lasting peace. In Myanmar this is not true. At times, the balance of power was equal, but this equilibrium was not stable because economic shocks have disturbed the balance of power between the Tatmadaw and the EAO. The Covid pandemic was a major shock that caused resources to be drawn from the military to public health and ultimately this led to the coup of 2021.

The balance of power depends also on natural resource appropriations and economic growth. As natural resources are depleting, the future of Myanmar development will increasingly depend on long run macroeconomic stability and economic growth. This will require institutions that close the fairness gap between rich and poor and between central and peripheral regions. Federalism may provide a solution for the allocation of public goods to groups with heterogeneous preferences.

We do not know how the civil war in Myanmar will end. It is possible that it will lead to the demise of the Tatmadaw, but that makes it even more urgent that the opposition parties design an efficient system for fiscal federalism and the transfer of sovereignty from the Tatmadaw to the people.

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