

RESEARCH ARTICLE

Soldiering in the Special Zone: The People's Liberation Army Engineering Corps in Shenzhen

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Abstract

Between 1979 and 1982, 20,000 troops from the People's Liberation Army Engineering Corps travelled from military-industrial sites in the interior to Shenzhen, China's first Special Economic Zone (SEZ). They were the first batch of state-sponsored migrants to the SEZ and the pioneer builders of the city's urban infrastructure. This article uses the case of military workers in the SEZ to examine state-market relations during the early phase of China's post-socialist transition. On one hand, the Deng administration strategically repurposed a disciplined labour force from Mao's command economy to jump-start marketization. On the other hand, the Mao-era power structure of the Engineering Corps not only persisted but became even more entrenched in the SEZ at the forefront of China's reform. The higher one's military rank was before demobilization, the more easily one could monetize socialist-era political credentials, particularly by taking advantage of the rising value of land in Shenzhen's urbanization process. Academic credentials served as a moderate booster of status within the public sector and a more powerful ingredient leading to success for private entrepreneurs. The lower the military rank before demobilization, the less meaningful the agency to obtain material rewards commensurate with past contributions.

摘要

1979年到1982年之间，两万中国人民解放军基础建设工程兵从三线各大军工基地南下深圳参加特区建设。他们是来到特区的首批由国家调派的移民群体，也是深圳城市基础设施的拓荒建设者。本文通过研究基建工程兵南下特区并在深圳转业历程，探讨中国改革开放初期市场与国家的关系。一方面，以邓小平为首的改革派领导人充分利用了基建工程兵纪律性强、劳动效率高等特点，快速地为市场经济的发展铺路；另一方面，在深圳这一改革先锋城市，基建工程兵群体中毛时代形成的权力结构并没有被瓦解，反而变得更加牢固。基建工程兵转业前的军衔越高，转业后就越容易在市场化过程中将自己在毛时代积累下来的政治资本转化为经济利益。深圳的快速城市化发展给很多从事房地产业的工程兵领导干部带来了谋取个人利益的机会。对于转业到政府单位或国有企业的基建工程兵而言，较高的受教育水平只能在有限的程度上推动他们的事业发展。而对于转业后自主创业的基建工程兵而言，较高的受教育水平对于他们事业发展的推动作用比较大。基建工程兵转业前的军衔越低，转业后就越难获得与其过去贡献相匹配的物质奖励。

Keywords: People's Liberation Army Engineering Corps; Shenzhen; reform and opening; the Third Front

关键词: 中国人民解放军基础建设工程兵; 深圳改革开放; 三线建设

In the mid-1960s, Mao Zedong 毛泽东 launched the Third Front campaign to strengthen China's national defence against perceived threats from the Soviet Union and the United States.¹ In 1980, as part of China's reform and opening, Deng Xiaoping 邓小平 initiated China's first Special Economic Zone (SEZ) in Shenzhen 深圳 to experiment with market-oriented policies.² The Third Front and

1 Meyskens 2020.

2 Coase and Wang 2012, 59–64.

the SEZ represent two very different development strategies in China: semi-autarchy versus an outward-oriented approach, a focus on heavy industry versus consumer goods, and the use of normative versus monetary incentives for labour mobilization.³

One group of migrants connected these two projects: the People's Liberation Army (PLA) Engineering Corps (*jiben jianshe gongcheng bing* 基本建设工程兵), a military labour force supporting the Third Front construction. Between 1979 and 1982, 20,000 servicemen from the Engineering Corps travelled from military-industrial construction sites in the interior to Shenzhen. They were the first batch of state-sponsored migrants to the SEZ and pioneer builders of the city's transport and telecommunication networks, water and electricity distribution systems, and public and commercial buildings. In 1983, in accordance with Deng's decision to downsize the PLA, the Engineering Corps members were discharged from active duty and assigned to civilian posts in either the Shenzhen municipal government or state-owned enterprises (SOEs).⁴

During the four decades since then, Shenzhen has been transformed from an impoverished town north of Hong Kong into a bustling hub of commerce and technological innovation. Huawei 华为, China's flagship information and communications technology company headquartered in Shenzhen, was founded by a former Engineering Corps member, Ren Zhengfei 任正非.⁵ In contrast to Ren's business success, more than 10 per cent of the demobilized Engineering Corps members were laid off during the privatization of the SOEs. Discontented with what they deemed to be unfair treatment, more than 3,000 former construction soldiers organized a public protest in 2005. In response, the Shenzhen authorities deployed hundreds of riot police and detained several protesters.⁶ Whereas those former Engineering Corps members with middle-class and higher socio-economic statuses proudly identify themselves as Shenzheners today, those harbouring grievances felt left out of the success of the reform.

The experiences of the PLA Engineering Corps challenge popular understandings about migration and social mobility in China's early reform era. In the early 1980s, the Shenzhen SEZ, a "social laboratory" for China's reform and opening, was commonly seen as a magnet for marketeers and speculators alike who operated illegally or semi-legally under the planned economy.⁷ Less burdened by socialist-era legacies, this southern border town appeared to offer new opportunities for these formerly marginalized individuals to catch up and disrupt the pre-existing social hierarchy.⁸ In contrast to these spontaneous economic migrants, the Engineering Corps was composed largely of involuntary migrants who played a central role in the Maoist command economy. To better understand the dynamics of the upward and downward social mobility they experienced in Shenzhen, we divide the veterans into three groups: the "commander-CEOs" with political credentials, the "red engineers" with educational credentials and those with neither set of credentials. Our findings suggest that, within and across these three groups, the key factor associated with the divergence of the construction soldiers' economic conditions was their political credentials accumulated during the pre-reform years.

This article shows that, on one hand, the Deng administration strategically repurposed a highly disciplined labour force from Mao's command economy to jump-start marketization; on the other hand, despite or because of their migration to the forefront of reform, the Mao-era power structure of the Engineering Corps not only persisted but became even more entrenched. By focusing on the unique case of Shenzhen's construction soldiers, we use military labour as a new angle to examine state-market relations during the early phase of China's post-socialist transition, drawing a

3 Reardon 2020, 1–2.

4 Zhou 2022, 330.

5 Zhou 2021, 113.

6 "Riot police move in to free mayor; ex-PLA men protest in Shenzhen for better compensation." *South China Morning Post*, 8 November 2005.

7 Chen 1995, 600.

8 We thank the anonymous reviewer for pointing this out to us.

connection between the literature on China's military economy and studies on the SEZs. Whereas the "zone" is an exceptional spatial formation, the soldier is an exceptional form of citizenship formation.⁹ In free ports, free economic zones, free trade zones and SEZs around the world, the state suspends "normal" regulations on taxation, labour regulation and property ownership to attract foreign investment.¹⁰ Similarly, among soldiers, the state suspends "normal" terms of rights and obligations with its citizens, as reflected in the "unlimited liability" which requires soldiers to be willing to sacrifice their own lives for the nation.¹¹ Although many civilians experienced varied degrees of militarization of everyday life during the Cultural Revolution in China, at the outset of reform PLA soldiers still faced a different set of restrictions and responsibilities relative to ordinary citizens.

This convergence of exceptions explains why the Maoist construction soldiers ironically served as a crucial part of the market-making institutions in Deng's SEZ. The urbanization in Shenzhen began in the late 1970s as a state-led campaign spearheaded by the builders of the Maoist militarized command economy. The status of the construction soldiers as "citizens of exception" allowed the state to relocate them rapidly and at low cost to an exceptional economic space. In the SEZ, the Engineering Corps not only efficiently built the infrastructure that facilitated economic exchanges during China's marketization but also transferred military engineering technologies and Maoist labour mobilization methods to the civilian realm.¹² Counterintuitively, because of Shenzhen's exceptionally early entry into the global market, the Mao-era military hierarchy proved to be particularly enduring among the Engineering Corps members demobilized there.

Across the newly industrialized countries in Asia, "zones" served as a device for the state to generate uneven economic growth by designing different scales of regulation for different parts of its territory and different segments of its population. The People's Republic of China's gradual reform also relied on this strategy of "graduated sovereignty."¹³ Shenzhen, a relatively disarticulated zone, helped the Chinese economy incrementally "grow out of plan."¹⁴ Within Shenzhen, market mechanisms were also applied unevenly among the veterans. The Mao-era military hierarchy still regulated access to cadre positions in Shenzhen's governmental agencies as well as managerial roles in Corps undertakings that were turned into enterprises; the market-dominated allocation of human resources applied only to former Engineering Corps members without political credentials. In Shenzhen, as "a hinge for linking socialist and capitalist spaces," political cadres in the Engineering Corps were perfectly positioned to use their past ties to the command economy for institutional arbitrage in the early reform period.¹⁵ China's dual-track reform allowed them to leverage resources between the planned economy and the market. Meanwhile, the technocrats could maintain their competitiveness in the labour market with their professional skills and experiences. Those who fared worst usually had a low military rank before their demobilization, along with low educational attainment. When they were at the peak of their productivity, their incomes did not follow market mechanisms but were determined by state distribution; after their competitiveness in the labour market declined owing to their age and low educational level, they were expelled from the protective shell of the socialist system.¹⁶

In terms of sources and methodology, we use the brief biographical notes of 1,574 former members of Engineering Corps Regiment 302 as a dataset. All of them were transferred into civilian positions at Shenzhen Tianjian (Group) Shareholding Limited 深圳市天健(集团)股份有限公司,

9 O'Donnell 1999, 359; Cowen 2008, 16.

10 Chen 1995; Ong 2000; Neveling 2015; Orenstein 2019.

11 Cowen 2008, 16.

12 Meyskens 2020.

13 Ong 2000.

14 Naughton 2015.

15 Ong 2004, 79.

16 Zhou 2021, 112.

the largest SOE derived from the Engineering Corps.¹⁷ We also include as a data source the more detailed biographies and memoirs of around 60 upper-middle to high-ranking cadres in published sources compiled and edited by civic associations.¹⁸ To complement these sources, we conducted in-depth, semi-structured oral history interviews with ten former Engineering Corps members between 2017 and 2019. This article presents the evidence listed above in the following order. The first part sketches the broader institutional evolution of the Engineering Corps from its establishment in 1966 to the SOE reforms in the 2000s. The second part zooms in on individual members' life trajectories after the Engineering Corps' dissolution and corporate transformation.

Migration: From Military-industrial Complexes to the Special Economic Zone

Not all of the construction soldiers who were demobilized in Shenzhen came directly from Third Front sites, but the military organization they belonged to, the PLA Engineering Corps, was established to fulfil the manpower needs of the Third Front. By 1965, three million civilian construction workers and more than 800,000 soldiers from PLA railroad and construction troops were engaged in infrastructure and industrial projects in the Third Front.¹⁹ As the experienced workers aged and the younger ones raised their families, it became increasingly difficult to transfer the almost four million personnel from one construction site to another. Vice-premier and prominent reformer Gu Mu 谷牧 proposed that the PLA should replace the older soldiers with new PLA recruits as well as with young and politically reliable civilian workers who had good technical training. This reorganized and replenished entity would form a new branch of the PLA, the Engineering Corps.

However, in the late 1970s, the Engineering Corps was operating under capacity owing to the reorientation of China's diplomatic and economic policies.²⁰ After the Sino-US rapprochement, the Party leadership no longer anticipated an imminent war between China and its Cold War rivals. After Deng Xiaoping's ascendance to power, the central government began to downsize the PLA and to reduce investment in heavy industrial projects in the interior while devoting its attention to developing the SEZs in the coastal regions.²¹

The transfer of 20,000 troops from the Engineering Corps to Shenzhen in 1979 effectively converted idle military construction capacity in the interior into a resource for generating rapid economic growth in the coastal south. By the late 1970s, the Engineering Corps had more advanced technology, equipment and skilled personnel than most civilian construction industries in China.²² It was particularly experienced in constructing infrastructure, or what is called in Chinese "three supplies and one levelling" (*santong yiping* 三通一平, that is, the supply of water, electricity and roads, and the levelling of ground), at locations "far from lines of transport and communication."²³ The Third Front consisted of labour-intensive projects scattered across the vast territory of China, mostly in mountainous interior areas that were difficult to access. Serving the Third Front, the PLA Engineering Corps was a network of young, skilled, disciplined and highly mobile workers experienced in long-distance relocation. Its flexibility and centralized command chain facilitated fast and well-coordinated deployment. Some of the first batch of 2,000 soldiers who arrived in Shenzhen in December 1979 were given less than 48 hours' notice before their departure from various Third Front sites, including the Dongjiang Hydro-power Plant of Hunan 湖南东江水电站 and the Great Wall Steel Factory (code number 302) of Sichuan 四川江油长城钢厂, which produced special alloy steel for military use. In the next three years, 18,000 more troops arrived in

17 Shenzhen Editorial Group of Historical Records of the PLA Engineering Corps 2015.

18 Liao 2003a; 2003b; 2003c; Duan 2014; 2018.

19 AMCPLA 2015, 8.

20 *Ibid.*, 584.

21 Meyskens 2020, 231, 234.

22 Gurtov 1993, 218.

23 *Ibid.*, 216.

Shenzhen. The majority came from the Third Front area, including the Jiuquan Steel Factory of Gansu 甘肃酒泉钢厂 and clandestine military and industrial sites in Guizhou and Qinghai. These Third Fronters were supplemented by a small number of troops who had not participated in the Third Front movement, including construction soldiers from the An'shan Steel Factory of Liaoning 辽宁鞍山钢铁厂 and aviation engineering units from the Guangzhou Military Region.²⁴

During their early days in Shenzhen, the Engineering Corps servicemen remained guided by the socialist work ethic that promoted frugality, austerity and putting work ahead of one's livelihood.²⁵ They described their construction of civilian infrastructure in militarized language, comparing construction sites to battlefields and equipment to weapons.²⁶ On the Third Front, perceived foreign military threats compelled the construction soldiers to develop a combat style of round-the-clock operation. In Shenzhen, to meet the demanding deadlines set by the government, they slept and worked at the construction site.²⁷ The Engineering Corps leaders used a construction strategy named after the offensive infantry tactic called "human sea attack" (*renhai zhanshu* 人海战术) in which painstaking manual labour compensated for technical deficiencies.²⁸

But the construction soldiers' belief in their collective spirit shattered as they underwent demobilization and two rounds of SOE reforms. In 1983, Shenzhen mayor Liang Xiang 梁湘 announced the dissolution of the Engineering Corps. The PLA Engineering Corps Shenzhen Temporary Command Post was transformed into a new SOE, the Special Economic Zone Construction Company (*Shenzhen jingji tequ jianshe gongsi* 深圳经济特区建设公司), which oversaw the seven subsidiary companies that derived from the seven different regiments of the Corps.²⁹ To become more efficient and streamlined, these entities underwent a first round of reform from 1984 to 1996, which focused on separating the enterprises from government (*zhengqi fenli* 政企分离). When first established, the SEZ Construction Company had a dual function as both an economic enterprise and a government agency. In 1984, it became an independent legal entity and was relieved of its administrative function and renamed the Shenzhen Construction Corporation (*Shenzhen shi jianshe jituan* 深圳市建设集团, hereafter "the Corporation").³⁰

The corporatized Engineering Corps no longer dominated the construction sector in Shenzhen. The Shenzhen municipal government became the first government entity in China to initiate a public bidding system for its infrastructure projects, attracting private construction operators from across the country. The successful bidder needed technical competencies as well as excellent networking and marketing skills. The Corporation employees, who had only just taken their military uniforms off, lacked training in business management. Moreover, the construction sector in Shenzhen was hit hard by a recession in 1986, after the central leadership in Beijing raised concerns about the "overly expanded" infrastructure in Shenzhen and suggested a 40 per cent reduction.³¹

To address the workers' grievances, the Shenzhen government reversed its previous policy of inviting open tender bids for all projects and reserved some special quotas for the veterans.³² This, however, was only a temporary measure; over the long term, the government encouraged the introduction of a responsibility system to resolve the "large in scale, collective in nature" (*yida ergong* 一大二公) problem endemic to many SOEs.³³ The Corporation experimented first

24 Duan 2013, 18–19.

25 Hou 2018, 66, 139.

26 Meyskens 2020, 172; Liao 2003a, 90.

27 Liao 2003a, 171; Du 2020, 30; interview with Ma Chengli, Shenzhen, 20 December 2019.

28 Liao 2003a, 171.

29 AMCPLA 2015, 605.

30 Shenzhen Editorial Group of Historical Records of the PLA Engineering Corps 2015, 6.

31 Du 2020, 180.

32 Zhou 2022, 342.

33 Naughton 2006.

with project contracting by construction teams and groups, and it subsequently implemented a system of “mortgage contract with net assets” (*jingzichan diya chengbao zhi* 净资产抵押承包制).³⁴ Under this arrangement, the employees and managers of the participating companies could pay mortgages voluntarily for a certain contracted project; they would receive dividends if the operation earned a profit and would bear the loss if the operation was unprofitable. The monetary incentives significantly improved the Corporation’s economic performance. According to Zhang Bao 张宝, then its general manager, the Corporation’s profits increased steadily from 80 million yuan in 1990 to 165 million yuan in 1991 and reached 450 million yuan in 1993, which made it the most profitable enterprise in Shenzhen for that year.³⁵

Building on the success of the contracting system, the newly formed enterprises proceeded with changes in property relations. In 1986, Shenzhen became the first local government to issue regulations regarding shareholding reform of the SOEs.³⁶ Following government directives, between 1989 and 1994, the Corporation launched an initial public offering (IPO) for three of its subsidiaries.³⁷ In 1996, the Shenzhen municipal government combined the Corporation and its subsidiaries with an additional 15 state-owned construction and real estate enterprises under a newly established Shenzhen Construction Investment Company (*Shenzhen jianshe touzi gongsi* 深圳建设投资公司).³⁸ By the end of the shareholding reform, the seven construction companies that had evolved from the seven regiments of the PLA Engineering Corps had been renamed and restructured. As shareholders, the managers of the SOEs were allowed to deploy company assets while the employees were incentivized to improve their performance. But the Shenzhen municipal government still held the majority shares while the managers and employees of the restructured SOEs held minority shares.³⁹

Throughout the first stage of reform, the Corps-turned-enterprises remained within the state-owned economy; the second round of reform in the early 2000s radically reduced the extent of state ownership. In 2004, the entity that evolved from the Engineering Corps Command Post – the Shenzhen Construction Investment Company – was dissolved; all its affiliates were taken over a new, larger SOE, the Shenzhen Investment Holding Limited Company (*Shenzhen shi touzi konggu youxian gongsi* 深圳市投资控股有限公司).⁴⁰ Following Beijing’s guideline of “grasping the large and releasing the small” (*zhuada fangxiao* 抓大放小), the Shenzhen municipal government concentrated state ownership in two Corps-turned-companies based on their outstanding performance and potential.⁴¹ The remaining five SOEs created from the Engineering Corps were all privatized (see Table 1); state-owned shares of each company were sold, mostly to their respective managers and employees. To cut costs, many now privatized companies terminated the employment contracts of the relatively low-skilled former construction soldiers, giving them lump-sum payments that

34 Shenzhen Editorial Group of Historical Records of the PLA Engineering Corps 2015, 14.

35 “Ting Zhang Bao rongyu huizhang jiang Shenzhen jijian gongchengbing guoqu de gushi” (Listen to Zhang Bao’s story of the history of Shenzhen Engineering Corps). *Sohu*, 9 January 2019, https://www.sohu.com/a/287794453_120054705. Accessed 15 December 2021.

36 “Shenzhen jingji tequ guoying qiye gufenhua shidian zanxing guiding” (Interim provisions on the pilot project for the shareholding reform of state-owned enterprises in Shenzhen Special Economic Zone), 15 October 1986, in “Shenzhen gaige kaifang ziliao” (Resources on reform and opening in Shenzhen), Shenzhen Municipal Government People’s Consultative Committee website, http://www.szzx.gov.cn/content/2013-04/24/content_8987138.htm. Accessed 15 December 2021.

37 Liu 2020.

38 “Renwu: bai wei Shenzhen gaige renwu Zhang Bao: liangwan gongchengbing de jiechu daibiao tequ jianshe de tuo-huang niu” (People: one hundred reformers of Shenzhen: Zhang Bao, an outstanding representative of the 20,000 engineering soldiers and a pioneer in the construction of the SEZ). *Sohu.com*, 24 January 2018, https://www.sohu.com/a/218734447_723519. Accessed 15 December 2021.

39 Duan 2013, 132, 221, 272.

40 Shenzhen Editorial Group of Historical Records of the PLA Engineering Corps 2015, 9.

41 For discussions on the *zhuada fangxiao* strategy, see Leutert and Eaton 2021, 203.

Table 1. The Organizational Transformation of the PLA Engineering Corps in Shenzhen

Entity Name (before 1983)	Entity Name (1983–1993)	Entity Name (after 1993)	Ownership Type
Regiment No. 1	Shenzhen No. 1 Construction Company	Tehao Shareholding Limited	Private
Regiment No. 16	Shenzhen No. 2 Construction Company	Shenzhen Jianye Group Shareholding Limited	Private
Regiment No. 19	Shenzhen No. 3 Construction Company	Shenzhen Pengcheng Construction Group Limited (2005)	Private
Regiment No. 303	Shenzhen No. 4 Construction Company	Shenzhen Yuezhong (Group) Shareholding Limited	Private
Regiment No. 304	Shenzhen No. 5 Construction Company	Shenzhen Jinzhong Group (1998); Shenzhen Jiangong (Group) Shareholding Limited (2009)	Private
Regiment No. 302	Shenzhen Municipal Engineering Company	Shenzhen Tianjian (Group) Shareholding Limited	SOE
Regiment No. 802	Shenzhen Mechanical and Electrical Equipment Installation Company	Shenzhen Jian'an (Group) Shareholding Limited	Privatized in 1992; became SOE again in 2009
Shenzhen Temporary Command Post	Shenzhen Special Economic Zone Construction Company	Shenzhen Construction Investment Holding Company (1996); Shenzhen Investment Holding Limited Company (2004)	SOE

monetized their past services. By doing so, these enterprises freed themselves from providing future social protection, such as medical care and pensions, to the laid-off workers.⁴²

The two rounds of SOE reforms introduced structural factors associated with the horizontal stratification among the former Engineering Corps members. Soldiers of the same rank in different military regiments could experience different levels of material well-being after demobilization in line with the varying performances of their respective regiments-turned-enterprises. The seven companies that evolved from the regiments exhibited heterogeneity in their adaptation to the market. As noted above, by 2005, only two of them remained as SOEs: the Shenzhen Tianjian (Group) Shareholding Limited Company (hereafter “Tianjian” 天健) and the Jian'an (Group) Shareholding Limited Company (hereafter “Jian'an” 建安). Only Tianjian has been state-owned consistently throughout the reform; Jian'an was privatized in the 1990s but returned to SOE status in 2009 after recovering from financial losses.⁴³ Different trajectories of ownership structure changes meant that only Tianjian employees enjoyed full coverage of social security, whereas others' access to this social protection could have been disrupted or suspended during the privatization process.

The varied performances of the seven Corps-turned-firms resulted mostly from the different profit margins in different sectors, particularly the gap between construction and real estate. This divergence was reinforced by the consolidation of state capital in profitable sectors with strategic value and its withdrawal from less lucrative, more competitive sectors. Initially, all seven companies started in the construction sector, where the profit rate approved by the state was merely 2.5 per cent, far below the average of 16 per cent across different economic sectors.⁴⁴ Yet legal changes

42 Hurst 2009, 79.

43 Duan 2013, 311.

44 Duan 2018, 162.

regarding land ownership and use rights allowed a few Corps-turned-firms to use land as a vehicle for capital accumulation. In March 1987, Gu Mu proposed allowing coastal cities to transfer land-use rights to mitigate capital scarcity for urban infrastructure construction.⁴⁵ By the end of that year, Shenzhen promulgated the Special Economic Zone Land Management Decree (*Shenzhen jingji tequ tudi guanli tiaoli* 深圳经济特区土地管理条例), which was warmly welcomed by foreign investors. The following year, in Beijing, a revision to the Land Management Law formally “separated ownership rights from use rights” and permitted landowners to lease land-use rights in exchange for fees.⁴⁶ The Shenzhen Construction Corporation, the parent company of all Corps-turned-firms, subsequently established the Shenzhen Zhenye 振业 and Great Wall 长城 shareholding companies to focus on real estate development; both were among the first firms that originated from the former Engineering Corps to succeed in their IPO.⁴⁷ Tianjian, the best-performing firm, initially specialized in aviation construction but soon adopted a strategy of “one core business, diversified operations” (*yi ye wei zhu, duo zhong jingying* 一业为主, 多种经营) by developing real estate.⁴⁸

Besides causing horizontal stratification, the SOE reforms translated the military hierarchy between cadres and soldiers of the Mao years into a widening income gap between managers and employees under Deng. In the next section, we discuss the vertical stratification among the former Engineering Corps members in detail.

Stratification: Military Hierarchy Reinforced by the Market

During the Mao era, military service was an important route for young people without access to education, particularly those in the rural areas, to acquire political credentials such as Communist Youth League and Chinese Communist Party (CCP) memberships.⁴⁹ However, after 1978, the power of the PLA rapidly declined and the upward social mobility that military service could offer became minimal, probably useful only for the very poorest villagers.⁵⁰ Meanwhile, the post-socialist period also witnessed frequent protests by veterans against their inadequate material assistance and the lack of political recognition for their wartime service.⁵¹

Overall, the PLA Engineering Corps members who were demobilized in Shenzhen were better off than their fellow veterans who were resettled elsewhere in China. First and foremost, in contrast to the experience of combat troops, their skills and experiences in military engineering and construction could be transferred to the civilian realm and produce economic value in Shenzhen, where market opportunities abounded. Second, Shenzhen’s successful development also meant that the local government could allocate more resources to the demobilized Engineering Corps. As the first and largest batch of state-sponsored migrants to the city, all of them benefited from preferential governmental policies, including Shenzhen urban household registration (*hukou* 户口) and public sector job assignments immediately after their release from the PLA.⁵² Of the 20,000 Engineering Corps members, 5,000 to 8,000 took up positions in the Shenzhen municipal government while the remainder joined the SOEs.⁵³ More than 90 per cent of the former Engineering Corps members are now property owners; the civil servants were entitled to welfare housing (*fuli fang* 福利房) from the Shenzhen municipal government, and most of the SOE employees purchased subsidized housing from their respective companies.

45 Rithmire 2015, 42.

46 Ibid., 2.

47 Liu 2020.

48 Shenzhen Editorial Group of Historical Records of the PLA Engineering Corps 2015, 12.

49 Andreas 2009, 24.

50 Diamant 2009, 14–15.

51 Diamant and O’Brien 2015.

52 Zhou 2022, 330.

53 Liao 2003a, 147.

However, the inequality among the former Engineering Corps members in Shenzhen is also staggering. When the Corps members (99 per cent male) arrived in Shenzhen, most were in their late 20s and early 30s and had received only a junior high school or high school level of education. More than one-third of them were CCP members, representing one-fifth of the total number of CCP members in the SEZ in 1983.⁵⁴ After their demobilization, fewer than 20 per cent became cadres in the Shenzhen municipal government or the Corps-turned-SOEs; more than 80 per cent became ordinary SOE employees.⁵⁵ Although comprehensive data on the income gap between the cadres and ordinary employees are not available, the information we gathered from oral history interviews suggests that after retirement, on average, an ordinary soldier-turned-employee receives a government-issued pension of around 3,000 yuan per month; if not bought out during the SOE privatization, one would receive an additional subsidy from the former employer of between 3,000 and 4,000 yuan per month, depending on the company's performance. The cadres, retired from either the government or the enterprises, receive a combined pension ranging between 10,000 and 20,000 yuan per month.⁵⁶

What caused the stratification? In the Tianjian dataset, we identify four key variables including the highest military rank before demobilization, highest level of education before demobilization, length of military service, and highest position in the civilian sector after demobilization. Our regression results indicate that one's highest military rank before demobilization was the key factor influencing one's position within the state sector after demobilization. Among the 1,574 former Corps members at Tianjian, fewer than 12 per cent of those with military ranks below platoon commander became cadres, in contrast to almost 60 per cent of those with military ranks of or above platoon commander.

The second important factor affecting one's position within the state sector after demobilization was the length of military service. The longer one served in the military, the more likely that person was to acquire a management position in the state sector after demobilization. Education level was not a significant factor in enabling commanders to become managers in the state sector, but it had a positive, although limited, impact on upward mobility in the state sector among low-ranking soldiers. Among the former Engineering Corps members below platoon commander, a high school education increased the likelihood of rising to a cadre position by only 4 per cent relative to those with just a junior high school diploma.⁵⁷

We divide the former Engineering Corps members into three categories according to their military ranks and education levels: (1) political cadres of or above the rank of platoon commander; (2) technocrats with tertiary-level degrees and higher, including both the PLA technical staff who had received professional training in engineering, medicine or accounting before their transfer to Shenzhen and young soldiers who passed the entrance examination for universities after their demobilization; and (3) soldiers below the rank of platoon commander who were unable to pursue higher education before, during or after their military service. In the following discussion, we delineate the life trajectories of each group after their demobilization in Shenzhen.

The "commander-CEOs"

For the elites in the Engineering Corps, the initiation of reform was a "lateral transfer."⁵⁸ Most of those with military rankings of or above platoon commander before demobilization transitioned into cadre positions in the Shenzhen municipal government or Corps-dominated SOEs. Most

54 Duan 2018, 354.

55 Extrapolated from Shenzhen Editorial Group of Historical Records of the PLA Engineering Corps 2015.

56 Interview with Ma Chengli, Yue Yanmei and Luo Chaoli, Shenzhen, 20 December 2020.

57 Detailed data and regression results available upon request.

58 Kivlehan-Wise 2007, 263.

had an average level of education but longer-than-average service time in the PLA, some starting their military careers before the establishment of the Engineering Corps in 1966. The most senior officer, the political commissar of the Engineering Corps Shenzhen Temporary Command Post (*jijian gongchengbing Shenzhen linshi zhihuisuo zhengwei* 建设工程兵深圳临时指挥所政委), Zhang Shuting 张书亭, joined the PLA in 1945 at age 16 and fought in the Korean War. After demobilization, he was appointed as deputy manager of the SEZ Construction Company. He retired from the position of general manager of the Shenzhen Eastern Development Group, a high-performing SOE that merged with the Shenzhen Construction Investment Company in 1996.⁵⁹ Liu Gengshen 刘庚申, a detachment-level deputy political commissar of the Engineering Corps (*zhidui fuzhengwei* 支队副政委), became the director of the Shenzhen Construction Cooperation.⁶⁰ Zhang Bao, who succeeded Liu as general manager of the Cooperation and later became board chair of the Shenzhen Construction Investment Company, was a regiment-level deputy commander and political commissar (*futuanzhang jian zhengwei* 副团长兼政委).⁶¹

As reform unfolded in the 1990s and early 2000s, some of these military elites transferred their pre-reform era experiences of political mobilization and indoctrination to communication and marketing, thereby facilitating the Corps' embrace of a new set of economic rules.⁶² For example, Wang Jiayu 汪家玉, a former PLA Engineering Corps thought and politics officer in Regiment 302, made "military culture" into a brand name for the Shenzhen Construction and Interior Design Group Limited (*Shenzhen shi jianzhu zhuangshi jituan youxian gongsi* 深圳市建筑装饰集团有限公司), a private enterprise derived from the Corps. During the Mao era, interior design was a dormant industry in China because home comfort was seen as a bourgeois pursuit that contradicted the official ideology of communism. Under reform, as consumers' need for interior design grew, the Maoist construction soldiers were in a weak position in the market because of popular perceptions of the Engineering Corps as being coarse and rough and without aesthetic sensibility. Yet Wang was able to convert the "good tradition of the PLA" – that is, the public image of military men as honest, reliable and conscientious – into a marketable brand identity. When bidding for a tender, Wang successfully won over prospective clients by vowing to "make the red flag fly high on the top of the hill" (*ba hongqi cha dao shanding* 把红旗插到山顶).⁶³

Besides their adaptive skills, many cadres maintained their elite status because they entered the real-estate sector and profited from the commodification of land. In the late 1980s and early 1990s, owing to budgetary constraints, the Shenzhen municipal government allowed many Corps-turned-firms to transfer land-use rights to raise funds for capital-intensive construction projects. Zhenye, the first real estate company to evolve from the Engineering Corps, enjoyed a breakthrough in 1989 when undertaking a Shun Chum River 深圳河 clean-up project. Upon receiving the commission for this project from the Shenzhen municipal government, the leaders of Zhenye successfully obtained the right to develop properties in the surrounding areas. The neighbourhoods surrounding the once heavily polluted border watercourse between China and Hong Kong soon became a prime location, and the financial gains from the rising property values enabled Zhenye to launch an IPO in 1992.⁶⁴

Technically, many ordinary veterans also benefited from the real estate boom. However, due to the regulatory ambiguities and inefficiencies in China's transitional economy, veterans in positions of power could accumulate personal wealth by facilitating quasi-illicit transactions. Jiang Zunyu 蒋尊玉 was a Corps member who became a high-ranking Shenzhen official but then fell from grace owing to his involvement in corruption. Having joined the PLA at the age of 19 as a driver soldier, Jiang

59 Liao 2003b, 462–473.

60 Ibid., 474–482.

61 Yuan 2019.

62 We thank the anonymous reviewer for raising this point.

63 Duan 2013, 64–65.

64 Duan 2018, 165–66.

furthered his education within the military system. He became deputy Party secretary of the Shenzhen municipal government in 2001 and then Party secretary of Longgang 龙岗 district in 2009.⁶⁵ Located in the north-eastern corner of Shenzhen, Longgang's landscape was largely rural until Jiang's arrival, but Shenzhen's successful bid for the 2011 Summer Universiade created the need for new sports venues and spurred many lucrative commercial housing projects. As the top official of the district, Jiang and his family reportedly received 32 million yuan and HK\$46 million in bribes and kickbacks from contractors and real estate developers. He was sentenced to life imprisonment for this behaviour.⁶⁶

The "red engineers"

With the progress of reform, China's labour market opened up and the value of educational credentials increased dramatically.⁶⁷ The ascent of technocrats in post-socialist China has been described by Joel Andreas as the "rise of the red engineers," as they represented a convergence of cultural and political capital following the Cultural Revolution.⁶⁸ Even the PLA, "which had long been an alternative route outside the school system for accumulating political credentials," enhanced its elite educational apparatus soon after the death of Lin Biao 林彪.⁶⁹ In 1972, the guiding principles of the PLA Engineering Corps emphasized engineering (*yigong wei zhu* 以工为主), signalling the leadership's renewed respect for intellectuals.⁷⁰ About one-third of the veterans in upper-level managerial positions in the Corps-turned-firms and cadres at the bureau level and above in the Shenzhen government had tertiary degrees, mostly in engineering, before their arrival in Shenzhen.⁷¹ Andreas' observation about the technocratic transformation of the elite holds true for these relatively senior cadres in the Engineering Corps, who had both higher-than-average education and longer-than-average service time in the PLA.

Unlike the political cadres, military technocrats, once they had been transferred to Shenzhen, could not move elsewhere because of the severe need for technical professionals in the new SEZ at the time.⁷² Nevertheless, in general, Engineering Corps members with academic credentials tended to take a more optimistic view of their future in Shenzhen. Ma Chengli 马成礼, a graduate of Qingdao Architecture Engineering College (*Qingdao jianzhu gongcheng xueyuan* 青岛建筑工程学院), suffered from career setbacks at a Third Front factory because he came from a "landlord" family. Ma reasoned that Shenzhen's urgent need for technical professionals would mean faster promotion for him.⁷³ His prediction turned out to be right. Originally the deputy chief of staff of the No. 1 Pioneer Division of the PLA Engineering Corps in Shenzhen (*yituan xianqian dui* 一团先遣队), Ma ultimately rose to the chair of the board and general manager of the Shum Yip Holdings Company Limited in Hong Kong 香港深业集团.⁷⁴

Tianjian, the best-performing SOE that derived from the Engineering Corps, was also led by technocrats. Its first general manager was Tian Shouchen 田守臣, who studied at the PLA Logistics Academy in the 1960s and worked as a military technician.⁷⁵ He was succeeded by Li

65 Liao 2003b, 443–454.

66 "Shenzhen shi zhengfa wei yuan shuji Jiang Zunyu shouhui an ershen weichi yuanpan wuqi tuxing" (The second trial of Jiang Zunyu, the former secretary of the Shenzhen Municipal Political and Legal Affairs Committee, upholds the original sentence of life imprisonment for bribery). *Pengpai xinwen*, 21 June 2019, https://m.thepaper.cn/kuaibao_detail.jsp?contid=3735552&from=kuaibao. Accessed 1 June 2024.

67 Andreas 2009, 255.

68 Ibid.

69 Ibid., 238.

70 AMCPLA 2015, 28.

71 Liao 2003b.

72 Interview with Zong Chunde, Shenzhen, 9 July 2019.

73 Interview, Ma Chengli.

74 Ibid.

75 Duan 2018, 74.

Xiangdong 李向东, who obtained a college degree from the South China University of Technology 华南理工大学 in the early 1970s and worked as an aviation engineer in the Guangdong Military Region's air force.⁷⁶ However, Ma, Tian, Li and almost all the other technical cadres who had already risen to managerial positions in the Corps-dominated SOEs had at least the same military rank and length of military service as the political cadres who became corporate executives.

Technocrats below the rank of platoon commander were rarely promoted to managerial positions; technocrats with high military rank but shorter service time in the PLA might have become managerial elites, but they fared worse in terms of socioeconomic status than the political cadres did over the long term. For instance, Shi Zhenshan 时振山, born in 1932, was a professionally trained accountant with rich experience gained from working at several Third Front military factories. He did not join the PLA until 1980 and was appointed as a detachment-level deputy commander and chief of staff in the Engineering Corps. In 1983, as one of the few PLA personnel with qualifications in economic management, he became the deputy manager of the SEZ Construction Company; later, he became the deputy manager and Party secretary of the South China Sea Petroleum Shenzhen Service and Development Company (*Nanhai shiyou Shenzhen kaifa fuwu zonggongsi* 南海石油深圳开发服务总公司), now a subsidiary of the China National Offshore Oil Corporation. Shi was among “the buddha's eight warrior attendants” (*bada jingang* 八大金刚), a nickname for the eight men in the core leadership of the SEZ Construction Company, in the early 1980s.⁷⁷ But Shi's economic status declined drastically after his wife became paralysed. Medical expenses exhausted his personal savings and forced him to sell the only property he owned.

In Shenzhen, it was common for the political cadres in the Engineering Corps to acquire academic credentials with institutional support. As a general policy, the Corps-turned-SOEs or the Shenzhen municipal government encouraged or even sponsored political cadres with junior high school or high school diplomas to further their education, mostly through part-time or long-distance study. Jiang Zunyu, the disgraced political star discussed above, failed the national university entrance exam before joining the PLA but ultimately obtained an MA degree in land resource management in the late 1990s.⁷⁸ Although it was almost impossible for a technocrat lacking political credentials to become a high-level administrator at one of the Corps-dominated-SOEs or to become a high-ranking civil servant, it was common for political cadres without specialized training to become leaders at technical institutions. For instance, Yang Renming 杨仁明, born in 1950, joined the PLA at age 19 and rose to the rank of battalion commander before being dispatched to Shenzhen. Although he did not hold an engineering degree, he was appointed as the director of the Shenzhen Investigation and Research Institute (*Shenzhen shi kancha yanjiuyuan* 深圳市勘察研究院), assisted by a deputy director who had earned a PhD from the prestigious Tongji University 同济大学.⁷⁹

Frustrated by a structure that valued political over academic credentials, some technocrats “plunged into the sea” of private business (*xiahai* 下海). Born in 1944 to a teacher's family in mountainous south-west China, Ren Zhengfei passed the entrance examination for the Chongqing Institute of Civil Engineering and Architecture (*Chongqing gongcheng xueyuan* 重庆工程学院) in 1963. He joined the PLA as a technician in 1974 and was credited with two technological inventions. When he arrived in Shenzhen in 1983 as part of the Engineering Corps, Ren was already a cadre at the level of deputy regiment commander. After the dissolution of the Engineering Corps, he was assigned to a mid-level managerial post at the South China Sea Petroleum Shenzhen Service and Development Company. Ren left the SOE and registered Huawei as a private company

76 Liao 2003b, 584–598.

77 Duan 2014, 380–83.

78 Liao 2003b, 443–454.

79 Ibid., 623–634.

in 1987, when the Shenzhen municipal government was promising tax concessions and favourable policies to encourage private investment in technological innovation.⁸⁰ Probably because of the sensitivity surrounding potential collaboration between Huawei and the PLA, Ren kept a cautious distance from the community of former Engineering Corps members. His managerial style at Huawei, however, arguably showed the impact of his experience in the Engineering Corps. In Huawei's early years, Ren carried out battlefield-style innovation campaigns, during which his staff worked, ate and slept on site without any separation between life and work.⁸¹

Senior technocrats like Ren could still shore up stability in the state sector if they chose to stay. However, for new recruits who arrived in Shenzhen in their early 20s and with only a short length of service in the PLA, the opportunities for upward mobility in the state sector were very limited. The accomplished few among this cohort of "baby soldiers" (*wawa bing* 娃娃兵) mostly acquired professional skills and education after demobilization and pursued careers outside the system (*tizhiwai* 体制外). For instance, Gao Hongxing 高洪星, born in 1963, passed the entrance examination for Shenzhen University in 1984 and obtained a BA degree in finance. Upon graduation, Gao was first assigned to the South China branch of the Guotai Junan Securities 国泰君安证券, one of the largest investment banks in China. But he ultimately resigned and started his own media company – Hong Kong Satellite Television, a media network that was registered in Hong Kong but produced most of its programmes in Shenzhen.⁸²

The "two withouts"

If upward mobility for technocrats with weak political credentials was difficult to achieve, the chances for low-ranking soldiers with junior high school or high school levels of education to raise their social status were very slim. Compared with the political cadres, they had little choice regarding their location in the first place. In theory, soldiers below the rank of platoon commander were allowed to leave Shenzhen and resettle elsewhere, but most came from humble rural backgrounds and were reluctant to return to agricultural production in their hometowns. With few social ties, they had little prospect of re-employment in any other city other than Shenzhen.

Similar to the technocrats who viewed Shenzhen as more welcoming of intellectuals with unfavourable Mao-era labels, some of the rank-and-file soldiers also thought of Shenzhen as a land of opportunity for self-made men without influential family connections. Moreover, the Shenzhen municipal government's offer of urban household registration for the soldiers, their spouses and children was particularly attractive, as many aspired to become urbanites.⁸³ However, in contrast to the technocrats, they had not had access to professional training when in the military and were still denied opportunities for higher education after demobilization, because either they failed the national university entrance examination or else had exceeded the age limit for sitting the examination. Meanwhile, as explained earlier, the allocation of educational resources outside the examination route (part-time and long-distance studies) favoured cadres.

Those who fared best in this category became civil servants up to the level of division chief (*chuzhang* 处长) in government departments such as sanitary services (*huanwei chu* 环卫处), quality inspection (*zhiliang jian du ju* 质量监督局) and security (*baowei ke* 保卫科). Unlike the urban planning and land resource management bureaus, which were dominated by the political cadres from the Engineering Corps, these government agencies were mostly responsible for providing public services rather than allocating valuable resources. As a result, they offered comparatively lower salaries, fewer benefits and few opportunities for rent seeking. The successful "two withouts" (i.e.

80 Duan 2014, 3–7.

81 Zhang 2008, 41.

82 Duan 2014, 27–63.

83 Liao 2003c, 802.

people without either political credentials or tertiary-level academic qualifications) would become salaried, propertied members of the middle class in Shenzhen, who would enjoy economic security but who would not accumulate significant personal wealth.

Those who transitioned to SOEs bore the cost of reform, particularly during the radical retrenchment of the state sector. The privatization in the early 2000s presented greater challenges to the construction soldiers than did their demobilization in 1983. When the Engineering Corps was dissolved, its organizational structure remained intact under the new framework of an SOE, which provided its employees with an “iron rice bowl.” In contrast, privatization broke the state’s social contract promising welfare provision in exchange for political allegiance with this once-militarized labour force. Whereas most of the former soldiers affected were in their 20s and 30s when demobilized, they had reached middle age when they were laid off, and so were confronted with a fiercely competitive labour market and little institutional support to enhance their human capital. Given their educational background and age, it was extremely difficult for them to maintain the same level of income they had enjoyed before the SOE reforms.

The rollback of social welfare prompted some former construction soldiers to start private businesses, and a few achieved moderate success. Yang Weiguo 杨卫国, born in 1951, came from a rural family in north-west China and joined the PLA at 18. He had reached the level of company commander (*lian Zhang* 连长) and was assigned to the Shenzhen No. 2 Construction Company after demobilization. During the SOE reforms, he was laid off. After a brief period working for the Shenzhen municipal government’s sanitary services, he opened a private cleaning service company.⁸⁴

Also born in the 1950s, “Z” (name withheld) followed a similar path into the PLA and then a Shenzhen SOE. During the property ownership reforms, Z became embittered about what he regarded as the rampant embezzlement of state assets by the managerial elites. He resigned and started a business promoting the agricultural produce from his hometown in north-east China. Plump with ruby cheeks, Z branded his company “fatty rice trader” and used a cartoon of his own face as the logo.⁸⁵ Both Yang’s and Z’s businesses were small, as these “two withouts” had access to much smaller social networks from which to secure start-up capital than did military technocrats such as Ren Zhengfei.

Meanwhile, the erosion of social benefits produced a strong sense of injustice among the laid-off veterans, inciting them to stage confrontational collective actions against the party-state. In the early 2000s, PLA veterans played a leadership role in thousands of social protests across China, displaying impressive organizational skills and savvy rhetorical strategies that invoked the state’s own discourse.⁸⁶ The former Engineering Corps members’ protest in Shenzhen fit into this larger trend at the time. In November 2005, the soldier protesters strategically organized a mass sit-in next to a statue of a “pathbreaking ox” (*tuohuang niu* 拓荒牛) inside the Shenzhen municipal government compound. The self-sacrificing ox is a symbol with which the former Engineering Corps identified. Having migrated in compliance with military orders at a time when the future of reform was uncertain and Shenzhen was barren, the construction soldiers believed that they, too, were pathbreakers and should be entitled to economic benefits and political recognition from the government.⁸⁷

Hypersensitive about “collective incidents” led by men with military experience, the Shenzhen government identified the protesting veterans as an unwanted disturbance. By treating the discontented veterans as a potential threat, the government caused the Engineering Corps to become further marginalized in society and exacerbated the economic difficulties faced by those who struggled the most. By 2019, around 670 former Engineering Corps members were living in the

84 Ibid., 1018–28.

85 Interview with Z, Shenzhen, 2 December 2017.

86 Diamant 2009, 388–390.

87 O’Donnell 1999, 343–375.

rent-controlled public housing provided for low-income groups. About 60 of them had no stable source of income or only a subsistence-level income. Most of them were near retirement age but had difficulty accessing their government-issued pension owing to the disruption or suspension of their social security, which was in turn a result of the poor economic performance of their former companies, enterprise bankruptcy and privatization.⁸⁸

In the male-dominated community of former Engineering Corps members, the burden of poverty fell most heavily on the wives of construction soldiers.⁸⁹ Most of these women had come from the countryside and followed their husbands to Shenzhen. Before the SOE reforms, some of them worked in dependents' factories (*jiashu chang* 家属厂), small-scale manufacturing enterprises set up especially for the wives of Engineering Corps members. Although the city provided them with urban residency status, better public healthcare and better education for their children, they themselves – mostly without any professional qualifications and having reached middle age by the time they had relocated – could find only low-paying, precarious positions such as maids after the closure of the dependents' factories during the SOE reforms.⁹⁰ In the 60 poorest families, the women had become the main provider owing to the death or chronic illnesses of their husbands.

The government's misguided obsession with "stability preservation" left the task of poverty alleviation among the former construction soldiers to a civic organization for veterans, the Shenzhen Pathbreaking History Research Society (*Shenzhen shi tuohuang shi yanjiuhui* 深圳市拓荒史研究会, hereafter "the Society"). Initiated and funded mainly by Shenzhen Yuezhong (Group) Shareholding Limited, one of the Corps-turned-firms, the Society managed a "Special fund for the well-being of the pathbreaking ox" (*guan'ai Shenzhen tuohuang niu zhuanxiang zijin* 关爱深圳拓荒牛专项基金), which provided compensation for disrupted or suspended social security, financial assistance with medical emergencies and funerals, free eye examinations and monthly subsidies of 1,000 yuan for the neediest families.⁹¹

Societal efforts to help the impoverished former soldiers provoked mixed reactions from the Shenzhen municipal government, which wanted the Society to share the city's financial and administrative burdens without undermining its authority. While private charities reduced the pressure on the government to allocate funds and manpower for veteran welfare, the party-state was wary about the emergence of critical discourse about inequality. To assure the government of its benign intentions, the Society sponsored the production of books, exhibitions, documentaries and even music videos featuring the Engineering Corps that closely followed the "mainstream" (*zhuxuanli* 主旋律) propaganda line. The Society's efforts on the cultural front rehabilitated the tarnished public image of the construction soldiers after the 2005 protests.

The degree of participation in this Society-led welfare programme for impoverished veterans varied between two groups of their former comrades-in-arms: those who had retired comfortably from the state sector and those who had become private entrepreneurs. The former political cadres were usually the most enthusiastic participants, but most of them were motivated mainly by self-interest and in boosting their own social status. These elites replicated a narrative of market triumphalism by insisting that the disgruntled former soldiers "brought misfortune on themselves" through health

88 "Guanyu jiejie bufen Shenzhen yuan jijian gongchengbing jiqi jiashu shebao bujiao wenti de jianyi" (Proposal on solving the problem of making up for the disrupted or suspended social security payments for the former Engineering Corps members and their families in Shenzhen," Shenzhen Municipal Government People's Congress, proposal No. 20190739 (Ying Xian).

89 "Shouhu tuohuang niu jihua: 2021 nian 8 yue shenghuo yuezhuji fang mingxi" (*Tuohuang niu* protection project: payment details of living aid in August 2021). Shenzhen Pathbreaking History Research Society, 18 August 2021, https://mp.weixin.qq.com/s/v_XRc4er-9QaQ90oa5bx_Q. Accessed 10 December 2021.

90 Liao 2003c, 982.

91 "Gongtong fuyu buwang tuohuang niu" (Common prosperity, never forget the pathbreaking ox). Shenzhen Pathbreaking History Research Society, 5 September 2021, <https://mp.weixin.qq.com/s/iICVFBXj5Gyty0YU1tA3QQ>. Accessed 11 December 2021.

problems or family issues. They denied that structural reasons were behind the grievances of their one-time associates, such as the protesters' claims that the lack of proper protection at construction sites exposed construction soldiers to injury and that the long processing time for household registration transfer among low-ranking personnel prolonged family separation and increased the chances of marital discord.⁹² The soldiers-turned-entrepreneurs were generally lukewarm towards the Society's charity and publicity campaigns. They were not unsympathetic to the veterans in poverty, but they avoided association with the political cadres who, in their opinion, were the undeserved main beneficiaries of China's dual-track reform.

Conclusion

Originally key players in the Third Front campaign, 20,000 troops from the PLA Engineering Corps migrated to the Shenzhen SEZ and built the economic infrastructure for China's marketization and access to global capital. The experiences of the construction soldiers deepen our understanding about the role played by the military economy in China's reform.⁹³ Complementing the vast literature that delineates the process through which the PLA responded to marketization, this article depicts the Third Front military migrants not merely as targets of Deng's reform but as active agents who spearheaded China's economic transition.⁹⁴ Since China's market reform began under Communist Party rule, the Chinese state could more effectively re-organize and re-purpose resources from Mao-era military-industrial complexes, which had the greatest concentration of scientific and technical resources at the time. Under incremental marketization, the conversion of the PLA's military industries to the civilian realm unfolded in a more coordinated manner than was possible in other transitional economies such as post-Gorbachev Russia.⁹⁵ In particular, the consistency of key economic decision makers, such as Gu Mu who served as both the commissar of the Engineering Corps and the director of the Special Economic Zone Office, enabled the direct transfer of labour, machinery and technology from Third Front military-industrial complexes to the forefront of reform.

However, the same socialist legacies gave the military migrants different degrees of leverage with which to claim economic benefits, social status and political recognition in the market economy. Most of the former Engineering Corps elites seized new opportunities for personal enrichment through the rising value of land in Shenzhen's urbanization process. After their demobilization, cadres in the PLA Engineering Corps became concentrated in SOEs in the real-estate sector and in government offices related to urban planning and land resource management.⁹⁶ They formed a close-knit network for collaboration, patronage and corruption. In the nascent market economy, the cadres enjoyed a significant advantage over ordinary soldiers due to "the new market value for official discretion in regulatory decisions" over land use.⁹⁷ As the decision makers who exercised control over real estate at the outset of the market transition, they could reap a larger portion of the profits through higher salaries, returns on company shares, the purchase of multiple housing units at preferred rates and, of course, abuse of power.

Echoing Andreas' theory about the rise of the red engineers under reform, our research shows that the Engineering Corps provided channels of upward social mobility for better-educated servicemen with disadvantageous Mao-era class labels, represented most prominently by Huawei founder Ren Zhengfei. However, "the meritocratic standards of modern professions" played a limited role in

92 Zhou 2022, 355.

93 For general discussions on the relations between markets and the militaries, particularly how military technologies facilitate the expansion and globalization of markets, see Cowen 2014.

94 Gurtov 1993; Bickford 1994; Mulvenon 2001.

95 Gurtov 1993, 234

96 Liao 2003a, 147.

97 Walder 2003, 900.

determining the upward and downward mobility of the veterans in Shenzhen.⁹⁸ As Bobai Li and Andrew Walder suggest, in post-1949 China, adult education has been an important channel for sponsored mobility through Party patronage.⁹⁹ In early reform-era Shenzhen, Corps elites with lower educational attainment could acquire university and even postgraduate degrees with relative ease. But technocrats with an inadequate length of service in the military and weak political credentials usually encountered difficulty in translating their pre-reform experiences into economic power, possibly owing to their lack of access to the patron–client networks in the PLA. In other words, whereas the conversion of academic to political credentials was conditional, conversion in the other direction was usually straightforward. This asymmetrical conversion between political and educational credentials motivated some technocrats, such as Ren, to escape the confines of the state sector and start their own enterprises.

The internal stratification among the Engineering Corps after their demobilization in the SEZ demonstrates a high degree of path dependency between the institutional barriers to upward social mobility during the Mao and Deng eras.¹⁰⁰ The higher one's military rank was before demobilization, the more easily one could monetize socialist-era political credentials through marketization. Academic credentials served as the icing on the cake for the political cadres, a moderate booster of military technocrats' status within the public sector, and a more powerful ingredient of success for entrepreneurs who exited the system (*tizhiwai*). The lower one's military rank was before demobilization, the less meaningful agency was available to obtain material rewards commensurate with Engineering Corps members' contributions in the pre-reform and early reform eras. Like the north-eastern industrial workers who felt “disenfranchised” by the collapse of the socialist work unit, the disadvantaged construction soldiers in Shenzhen were nostalgic about the moral economy of the Mao era, during which they had enjoyed state guarantees of economic security and social prestige.¹⁰¹

As Paul Kendall writes in his contribution to this special issue, the commemoration of the Third Front is an important part of contemporary state media discourse in China. The Third Front spirit (*sanxian jingshen* 三线精神), which features austerity and putting work ahead of one's livelihood, is also celebrated in the unlikely location of the SEZ. On a hot and humid morning on 22 July 2017, hundreds of former Engineering Corps members donned their old PLA uniforms once more for the unveiling ceremony of a statue named “Song of the PLA Engineering Corps” at Shenzhen's Bijiashan Park 笔架山公园. Since the mid-2010s, a growing number of public history projects have increased public awareness of the history of the Engineering Corps in the SEZ. The commander-CEOs have been the greatest beneficiaries, in terms of social capital and political recognition, of this promotion of the public image of the Corps. Meanwhile, the Society-led redistribution programmes have partially but not systematically ameliorated the economic difficulties faced by struggling veterans. Far from unifying them as a “Weberian status group,” their shared experience as Mao's soldiers only deepened the division between the former Engineering Corps members who were consistently denied opportunities for social advancement and those who enjoyed state-sponsored privileges beyond 1978.¹⁰²

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98 Walder, Li and Teiman 2000, 191.

99 Li and Walder 2001.

100 For discussions on path dependency between the institutions of inequality between Mao and Deng era, see Solinger 2019.

101 Andreas 2019.

102 Diamant and O'Brien 2015, 302.

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