Contentious Origins of Autocratic Welfare States: China's "Demand-driven" Strategy to Manage Collective Action

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Abstract

Despite the lack of electoral accountability and median voter's redistributive preferences, China has built an expanding welfare system that is set to include most citizens. Why does China defy the conventional prediction of an exclusive autocratic welfare state? This paper argues that the state adopts a "demand-driven strategy" where the redistribution effort varies with the expected collective action of economic losers. Using legacy state-owned enterprises (SOE) as an instrumental variable for laid-off SOE workers in Chinese counties, the paper finds that preexisting urban grievances explain local states' later efforts to establish a welfare state. The effect dominates effects of realized protests, suggesting that structural knowledge about *potential* grievances is more important in formulating policy concessions than situational knowledge like revealed grievances in authoritarian states.

Keywords: Chinese politics, authoritarian responsiveness, economic transition, social welfare

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1 Introduction

Economic change is disruptive. Inevitably, there are "losers" in these structural changes, such as laid-off state-owned enterprise (SOE) workers in former socialist countries in Eastern Europe. In these nascent democracies, economic losers converted their preferences into social welfare policies by winning elections (Deacon 2000). More inclusive political regimes are more likely to avoid "winner-take-all" partial reforms, as losers can exert more influence on policy outcomes (Hellman 1998, 230).

However, economic liberalization does not always come hand-in-hand with political liberalization. Former socialist countries like China and Vietnam underwent radical economic changes without democratization. Like Eastern Europe, the Chinese state has introduced a redistributive social security system in response to the grievances of losers. Lacking inclusive political institutions, the Chinese state still integrated the losers' preferences into social policies.

It is not uncommon for autocracies to develop an exclusive welfare state that co-opts crucial supporting groups (Knutsen and Rasmussen 2018). However, studies about contentious politics in contemporary China among laid-off workers (Hurst 2004), pensioners (Hurst and O'Brien 2002), and peasants (Bernstein and Lü 2003) give important insights on how collective action of the masses can catalyze state concessions. Huang (2020) argues that autocrats provide stratified social protection that balances elite privileges and mass welfare to ensure the survival of their regime. This paper links the different literature on authoritarian welfare states by looking at the contentious politics behind the establishment of China's welfare state. I argue that the state adopts a "demand-driven" strategy of appeasement such that the potential collective action of losers in economic liberalization stimulates the expansion of a social security system.

Autocrats' concessions to the masses are studied closely in the literature on government responsiveness. Przeworski, Stokes, and Manin (1999, 9) define a state as "responsive" if it adopts policies signaled as preferred by citizens. An array of robust empirical studies document authoritarian re-

sponsiveness that reflects local concerns to the center through representatives (Malesky and Schuler 2010) and claims to take account of citizens' inputs (Meng, Pan, and Yang 2017) or gives information to satisfy citizens' requests (Distelhorst and Hou 2017; Chen, Pan, and Xu 2016). However, these recent studies in responsiveness take the form of particularistic and piecemeal transactions that address individual grievances, deviating from an earlier focus on programmatic responsiveness (Tsai 2007). More importantly, the literature is usually not concerned with the redistributive effect of responsiveness. What other party's interest is harmed, and from where are the resources systematically taken away? Using China as a case, the paper finds that an authoritarian state can make programmatic changes that harm one group, including itself. The state is willing to pay a real price for responsiveness for fear of collective action.

The paper makes a new conceptual distinction regarding how the state makes concessions. State appeasement is often characterized as either the active searching out of grievances ("police patrol") or passively waiting for aggrieved parties to complain ("fire alarm") (McCubbins and Schwartz 1984). Both approaches rely on the premise of limited information. However, if the state has enough structural knowledge about the scale and location of grievances, it can design policy programs in advance to appease them systematically. This approach avoids the high cost of surveillance and the risk of an eruption of discontent. I call this the "mail post" approach, as modern states are prone to using the postal service to collect information about their subjects (e.g., census and tax records) and provide public services to them (e.g., stimulus checks). China's local states adopted this approach to calibrate their social security system according to prior knowledge about local collective action potential before experiencing social unrest. While the "fire alarm" approach emphasizes realized protests and the "police patrol" approach emphasizes routine monitoring, this new concept includes unrevealed preexisting grievances into the state's strategies of appeasement.

The paper also makes a substantive contribution to political economy studies on the establishment of the Chinese welfare state. I find that, due to the fiscal crisis that forced the state to lay off millions of SOE workers, the state shifted most of the burden of financing social security to cover economic losers to private firm owners and their employees through their contributions. These new contributors then became future claimants of these benefits. This self-reinforcing dynamic

explains why China's welfare state continues to expand to include most of the population instead of remaining exclusive, as autocratic welfare states usually do.

The case is studied at the subnational level in China, where the key features of the social security system are decentralized, and the large-scale dismantling of SOEs has produced enormous variation in the size of the displaced workforce. State commitment is operationalized to the welfare state as the enforcement of social security collection because the latter can only be used to provide welfare and crowds out discretionary tax revenue. The level of expected collective action is measured as the number of laid-off workers. The paper finds that greater expected collective action leads to greater social security collection, suggesting more government commitment to the welfare state.

The rest of the paper is organized as follows. Section 2 introduces the background of the dismantling of SOEs and the social security system in China. Section 3 lays out the theoretical arguments. Section 4 introduces the research design that exploits an instrumental variable. Section 5 presents and discusses the results.

2 Background

2.1 Demolition of the Welfare State

Before the 1990s, the Chinese welfare state was a classic club good, as expected in authoritarian states. Benefits were exclusive to the state sector, where only personnel affiliated with the state were covered, such as SOE workers, officials, teachers, doctors, and the military. The old welfare regime was also highly fragmented: each work unit provided its own package of benefits, including housing, healthcare, pensions, and lifetime employment to its employees (Frazier 2011). Rapid market-oriented reforms leading to China's entry into the World Trade Organization in 2001 ended lifetime employment for tens of millions of SOE workers and deprived them of SOE-provided benefits. Most of these workers were laid off, while others were pushed into "early retirement" and designated as pensioners. From 1998 to 2003, 29.7 million workers were laid off, while pensioners on pension

payrolls increased from 27.3 million to 38.6 million.[1] Central planners responded by expanding the old micro-welfare state to a national social safety net that included pensions, health insurance, and unemployment insurance. The new system replaced the fragmented firm-level welfare state with a more unified welfare state administered by city and county governments. It also eliminated participation barriers and made the system accessible to all urban workers.

Privatization and social welfare provision are usually perceived as being on opposite sides of the political spectrum. Counterintuitively, the two policies overlapped in the late 1990s in China. The co-occurrence of the two events was not a coincidence. Indeed, Frazier (2011, 40) argues that the creation of China's welfare regime directly responded to the looming threat of labor unrest that emerged because of labor liberalization. At its root, the effort to build a universal welfare state was a way to appease unemployed SOE workers during a period of economic upheaval and liberalization.

The urgent need for liberalization came from large-scale financial losses among the SOEs that had survived only through consuming credit provided by state-owned banks. SOEs' fiscal and debt burden forced the state to privatize most SOEs and downsize the rest. Laid-off workers lost their salaries and the micro-welfare system, from schooling to healthcare, supplied by SOEs. These measures reneged on the cradle-to-grave promise given to SOE employees.

Laid-off workers from downsized SOEs led to a steep rise in unemployment (Solinger 2002). Despite the state's efforts at reemployment, according to a survey by the Chinese Federation of Labor Unions, only 18% found new jobs (H. Y. Lee 2000, 928). The number of laid-off workers translates into the expected scale of collective action for two reasons. First, former SOE workers are specifically able to organize collective action such as labor protests. They represent a more cohesive group than non-SOE workers because they share a working relationship and common community from factory neighborhoods to children's factory schools (Cai 2002, 341). Second, as these workers were once promised lifetime care by the state and were recognized as "the ruling class," they have a political mandate to claim compensation from the state, similar to the "rightful resistance" found

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[1] Ministry of Human Resources and Social Security (MOHRSS), 1998–2003 "劳动和社会保障事业发展统计公报."

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by O'Brien and Li (2006) among Chinese peasant protests. Of the 58 documented SOE-related protests between 2004 and 2007, 39 demanded better compensation in restructuring the economy (Elfstrom and Velden 2016).

2.2   Settlements for Laid-off Workers

The state partially appeased the laid-off workers by promising them to be covered by the newly founded social security system. Even though pre-reform SOE workers had never contributed to social security, their tenure in the SOE counted as if they contributed, and they could contribute more to the fund either as individuals or employees elsewhere afterward. After retirement, they would be eligible to receive pensions if they had contributed for 15 years. This promise was called "historical debt" in the social security system because it represents an unfunded burden to cover pre-reform SOE workers. However, this promise means nothing if the laid-off worker has worked shorter than 15 years in the SOE and has contributed afterward to fill the contribution gap. She would not be eligible to receive the employee's pension and would have to transfer her contribution to the basic resident's pension, which entails a significant pay cut. In light of the pervasive post-layoff unemployment, the state allows workers who participated in the pension scheme before 2011 (effectively all laid-off workers) to make a one-time contribution to make up for the missed years.[2]

Therefore, in one way or another, most laid-off workers have a claim over the pension fund. Since the local pension fund is pay-as-you-go and pooling all contributions, non-SOE contributions effectively funded the payments. The replacement of SOE's welfare systems with the new social security system externalized the massive welfare burden from decentralized provisions within SOEs to local governments.

Promising future welfare is not the only option to quell the protests of economic losers. Hurst (2004) documents two alternatives: regions badly hit by the economic reform, like the Northeast, could only afford to forcefully suppress protests, while fiscally resourceful regions chose to use one-time payments to buy off protesters. The first tactic is politically unsustainable when protests have

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[2]http://www.gov.cn/gongbao/content/2012/content_2041881.htm

massive crowds and rightful mandates; the second tactic adds immediate fiscal pressure to local administrations. One-time payments came from local discretionary revenue, central transfers, and the unemployment insurance fund.[3] More importantly, the central state prohibits the one-time payment method to absolve the SOE's responsibility to laid-off workers' previous social security entitlement.[4]

The monetary value of twenty years' worth of accumulated pensions exceeds any one-off compensation that local administrations can afford such that the promise seems fiscally imprudent. However, the social security system creates a new source of revenue for local administrations if they expand the collection to growing private and foreign firms whose young employees will not claim benefits for decades. In short, a welfare system that recognizes past contributions and promises regular *future* payments is a compromise, fiscally viable to both local administrations and economic losers.

2.3   A Decentralized Social Security System

Even after the reforms in the 1990s, China's social policy regime is regarded in the literature as fragmented and decentralized (Ratigan 2017; Hurst 2004; Lin and Dale Tussing 2017; Huang 2020). Figure 1 illustrates the variation in the county-level *de facto* social security rate (SSR) across the 31 provinces of China as of 2005. Note that variation *within* provinces is as significant as that *across* provinces.[5] Despite the national guideline of 28%, the SSR in almost all counties falls well below that level.

In the implementation, China's central authorities allow counties to collect and manage most

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[3]MOHRSS, "1998 年劳动和社会保障事业发展统计公报."

[4]"No work unit can end employee's social security relations with 'buy-off' measures." Ministry of Labor and Social Security, 1999, Document No. 10. "关于贯彻两个条例扩大社会保险覆盖范围加强基金征缴工作的通知"

[5]In China, provinces encompass prefectures, and prefectures encompass counties. Prefectures usually comprise county-level urban districts and rural counties. At the end of 2005, there were 333 prefecture-level units and 2862 county-level units. http://www.gov.cn/test/2007-03/23/content_559298.htm
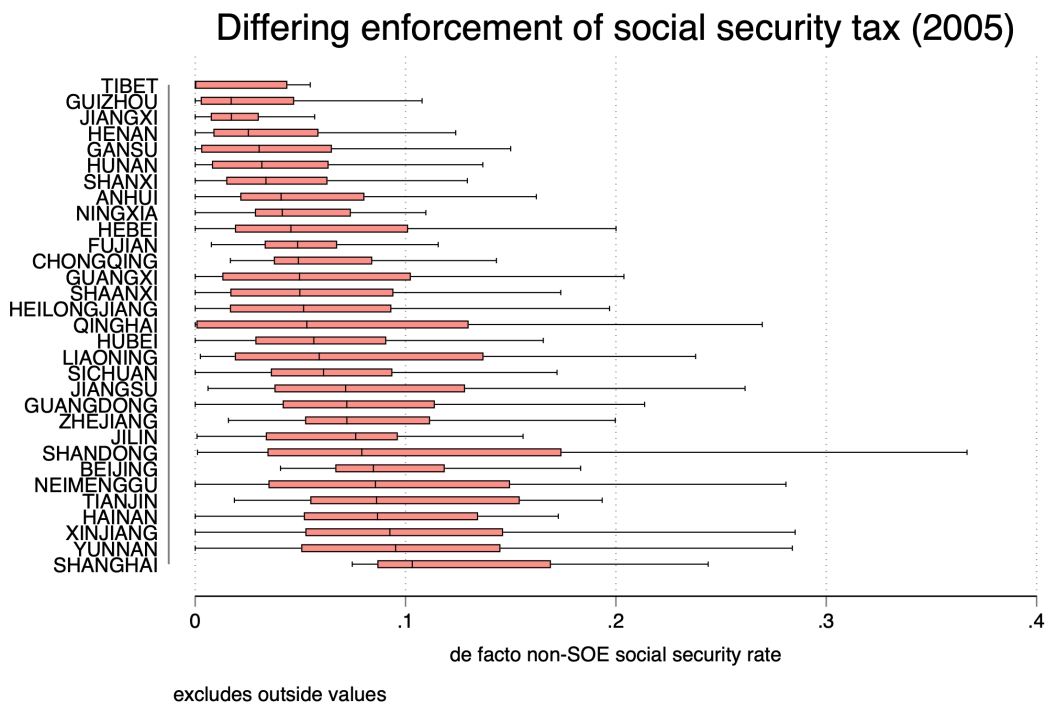
Figure 1: Differing enforcement of social security tax (2005)

of the social security tax. All medical and unemployment insurance for workers is raised and spent at the county level. The latter is actively used to support laid-off workers from a locality in the first two years of unemployment. County governments also assume sole responsibility for pension expenditure compensating workers who retire early in their jurisdiction. The decentralization of the social security system makes it ineffective in reducing inter-regional inequality. Moreover, the social security system is fragmented along sectoral boundaries: during the period studied in this paper, social security only covered urban workers; the central state later set up separate systems to cover rural residents (2009) and urban residents (2012). The fragmentation also hinders the system's ability to alleviate inter-sector inequality. However, the systems demonstrate mildly progressive redistributive effects within some sectors (Gao 2010; Gao, Yang, and Zhai 2019).

Before 2015, the national nominal rate required Chinese firms to contribute 28% of an employee's salary to the social security bureau (pension 20%, health care 6%, unemployment insurance 2%). Individual prefectures had discretion regarding the designated contribution rate, but most

prefectures set it above 20%.

Social security authorities ask firms to contribute using their employees' gross salary as the base from which they calculate the social security contribution.[6] However, according to data at the industrial firm level from 2004 to 2007, the participation rate (non-zero contribution) was 62.9%. Many firms used the minimum base (60% of the local average wage) instead of the real salary to indicate participation while minimizing their contribution. Among participating firms, the median contribution rate was 9.2% of gross salary, far below the national nominal rate of 28%.

Most social security accounts are decentralized, used, and managed at the county level.[7] A typical retiree's pension plan is comprised of three parts: a base pension, a personal account pension, and a transitional pension. The prefecture absorbs the funding required for base pensions, while the remainder of the revenue is returned to the counties to spend on personal accounts and transitional pensions.[8] The transitional pension is earmarked for workers employed by the state before the establishment of the social security system, who had therefore not made prior contributions. Most laid-off workers fall within this group, as they were employed before the social security system was established. Overall, social security is a county-level issue in China.

The national policy does not always reflect the true situation if subnational units control the policy process on the ground (Snyder 2001). Building a social security system represents the center's immediate response to the broken promise of the "iron rice bowl," with local administrations granting the political leeway to customize the policy without causing a public backlash. Gallagher (2017, 108) uses "high standards, self-enforcement" to describe the central state's strategy: by passing a high-standard labor protection legislation lacking enforcement mechanisms, it can claim

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[6]MOHRSS, "人力资源社会保障部对十二届全国人大五次会议第 1188 号建议的答复," www.mohrss.gov.cn/gkml/zhgl/jytabl/jydf/201711/t20171102_280551.html

[7]The central state pushed to centralize medical insurance at the prefecture-level by 2009 and to the provincial level by 2011. National Healthcare Security Administration. "国家医疗保障局对十三届全国人大二次会议第 3489 号建议的答复." www.nhsa.gov.cn/art/2019/8/6/art_26_1621.html

[8]As explained in this guiding plan from the Guangdong provincial state general office: 2003/7/21, "广东省养老保险市级统筹工作指导方案," http://www.gdsi.gov.cn/zcfg_ylbx/20150507/2688.html

credit for protecting workers and shift the blame of poor implementation and enforcement to the local administration. Analyzing collective action of laid-off workers, Hurst (2004, 111) argues that regional fragmentation is "probably the single most important variable" in understanding the working class's role in contemporary Chinese politics and calls for a comparative subnational approach. Local governments design their social programs according to local socioeconomic conditions. Using provincial-level data, Huang (2020) finds that provinces with more migrants and a higher dependency ratio expand health insurance coverage to pool social risks. Therefore, the divergence of the central-local trends observed in Figure 1 is by design.

2.4 Social Security vs. Taxation

Local leaders are often characterized as lacking incentives to collect social security if they are not under spending pressure (Nyland, Smyth, and Zhu 2006, 199). Moreover, social security revenue is earmarked for exclusive use, and misuse of it is a severe transgression. For instance, Chen Liangyu, Shanghai's party secretary and a Politburo member, was convicted of abusing power and misappropriating the city's $4.8 billion social security fund in 2008. Unlike tax revenue, social security funds are not fiscal resources that the local state can use to invest in projects or improve the welfare of officials. By contrast, tax revenue can be used for social security expenditure if necessary. In sum, social security is non-fungible, and tax revenue is fungible: local administrations would prefer one yuan of tax revenue to one yuan of social security revenue in a time of surplus. A prudent social planner may want to accumulate social security funds to counter looming demographic challenges. However, if local officials have time horizons as short as their tenure (three years on average for county leaders), they would generally not be concerned with any future social security deficits that their successors will face.

This incentive structure is reversed if a locality faces mounting social spending pressure. Due to the compulsory and fixed nature of taxation, tax collection is less flexible and better enforced than social security collection; there is much less room to introduce new sources of revenue. Instead of pouring constrained discretionary revenue to replenish a social security deficit, local leaders would collect more social security tax by expanding participation among non-SOEs. With forbearance

measures like allowing a minimum instead of a total contribution, county leaders can control the priority of social security collection. Social security contributions and taxation are collected through separate channels and usually by different bureaus, so it is not difficult to differentiate enforcement.

3   Theory

3.1   Demand-Driven Appeasement

Establishing a welfare system is a formidable task for the state and requires a sustained commitment of resources. In an authoritarian state that lacks the mechanisms of accountability to citizens, a welfare system is especially expensive for ruling elites in terms of opportunity costs, as it carves away the state extraction that could otherwise be used to advance their private goals. More importantly, due to the loss aversion of beneficiaries, any reduction or reneging of welfare promises is likely to result in widespread public grievances. Once established, the state must continuously supplement the welfare system with extractions to sustain social stability. Therefore, the state is more likely to use targeted welfare programs to solve credible commitment problems to win over crucial supporting groups (Knutsen and Rasmussen 2018).[9] Huang (2020) also finds that China's central and local states frequently increase health insurance reimbursement rates for the privileged groups of state employees, retirees, and urban formal workers to maintain support.

Who constitutes the crucial supporting group for the regime? Knutsen and Rasmussen (2018, 664) define it as "individuals who support the regime and, if they were to retract their support, would substantially increase the probability of the regime ending." SOE industrial workers are indeed a crucial supporting group for the Chinese party-state. Still, it is theoretically a stretch to include laid-off SOE workers, who were abandoned by the state, explicitly against local administrations, and implicitly against the central state (Hurst 2004, 110).

If laid-off workers are not the crucial supporting group, why did the state extend the club goods of social security to millions of people banished from the coalition? Protests by laid-off

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[9]Knutsen and Rasmussen use "critical supporting groups." I changed the term to avoid confusion.

workers target local governments overtly (Hurst 2004, 99). As the highest authority figure in the locality, the local leader's authority and control over society are damaged by social unrest. Protests and strikes interrupt economic activities and require either fiscal or coercive resources to manage. Even with a minimalist assumption that local administrations maximize discretionary revenues, we expect that the state will manage social unrest to minimize the destruction of economic output and the consumption of revenues.[10] The state's willingness to provide social welfare follows the threat of social instability; that is, it is a demand-driven strategy. Ideally, by appeasing percolating grievances before protesters gather in the streets, the authoritarian state anticipates citizen demands to devise a minimal but sufficient welfare state to ensure stability.

The demand can take the form of either realized protests or the existence of mobilization potential. The theory is agnostic to the form of demand because the state is interested in avoiding even probabilistic collective action. In a way, collective action under authoritarianism functions like votes in electoral democracies, with the capacity to stage collective action mirroring the expected voter turnout of a social group in a democratic election. Compliance without assertiveness in an autocracy resembles disenfranchising oneself in a democracy.

The demand-driven strategy generates a testable implication: social security is collected and distributed to address actual and possible collective action (Hypothesis 1). Subsequently, more active and organized citizens can push the state to devote more to providing social welfare. Note that this implication does not necessarily contradict the elitist arguments raised by Knutsen and Rasmussen (2018) and Huang (2020). Privileged groups (e.g., urban formal workers, retirees, and state employees) are better organized and more active for the same reasons that laid-off SOE workers have more bargaining power.

However, demand-driven appeasement alone cannot explain the imbalance in the expansion of China's welfare state. Rural migrant workers have increasingly become the main actors in strikes and demonstrations in China, and their sheer size should pose enough potential for collective action.

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[10]A stipulation from 1992 ("中央社会治安综合治理委员会关于实行社会治安综合治理一票否决权制的规定（试行），" 1992.1.13.) states that the occurrence of "mass petitioning to upper levels, illegal demonstrations, crowd disturbances, strikes, or school boycotts" constitutes a "veto point" in career advancement.

However, their access to public services still lags far behind their urban peers. What else makes them different from laid-off SOE workers? The paper argues that how the state knows about citizen demands determines how it responds to them.

3.2 "Mail Post"

Even if state concessions are demand-driven, the most efficient way of addressing citizen demands depends on how the state knows the demand. The state can actively search for violations of policy goals and address them before they erupt ("police patrol"). Alternatively, the state can respond to the revealed demand *ex post* when it experiences protests or petitions ("fire alarm") (McCubbins and Schwartz 1984). In both cases, the state would find the grieved individual(s), and it would be efficient to address their troubles directly.

Scholars have applied the fire alarm and police patrol models to the Chinese context. Dimitrov (2015, 51) argues that protests, which provide information voluntarily to the state, act as a fire alarm and play an important role in crisis governance in China. Gallagher (2017) suggests that China relies on the "fire alarm" mechanism for its labor law enforcement. The center uses campaigns to disseminate legal knowledge to empower individual workers to demand protection from local administrations instead of pressuring local administrations from the top to enforce labor laws uniformly. Gallagher emphasizes the self-enforcement element of China's labor law, where *individual* workers must actively use the legal code to sound the fire alarm and expose the local administration. Legal codes give economic losers a focal point to unify their expectations, strengthening their ability to mobilize if they are unsatisfied.

The "fire alarm" approach lets citizens bear the cost by voluntarily providing information — but the state bears the risk for erupted grievances. As the state has situational information provided by fire alarms like protests and petitions, it addresses them *ex post* with particularistic compensation. Therefore, it is no coincidence that recent responsiveness literature is dominated by studies of particularistic concessions that target individuals (Chen, Pan, and Xu 2016; Distelhorst and Hou 2017; Meng, Pan, and Yang 2017). After all, petitions and protests are mostly about individual grievances and can therefore be efficiently (and cheaply) addressed by particularistic on-the-spot

compensation.

"Police patrols" are more costly to the state because they bear the information cost directly by building up surveillance and auditing bureaucratic wrongdoings. McCubbins and Schwartz (1984) defines police patrols' aims as "detecting and remedying any violations of legislative goals and, by its surveillance, discouraging such violations." The emphasis on violations makes police patrol a mechanism that serves the purpose of improving policy implementation. It can be either responsive or preemptive, but any corrections or discouragement of violations are particularistic since they are, by design, eliminating deviations from the program instead of changing it. In essence, the approach is collecting situational information (violations) *after* policy-making and concentrating on supervision of implementation without changing the policy itself. In China's context, police patrol is like government campaigns to clean up malpractices periodically, but their policy impact is corrective instead of fundamental.

Both approaches rely on the premise that the state has limited information, such that it must either spread its resources to stay ahead of troubles or spend efficiently but lag crises. A third situation exists when the state has prior structural information to understand the scale and location of the grievances and builds programmatic remedies into the policy design. I call this the "mail post" approach, similar to governments sending stimulus checks to low-income households to relieve them of economic hardship, using prior tax records to identify recipients.

The "mail post" approach is how China handled the economic losers created by its SOE reform. Local administrations were aware of the scale of SOE layoffs as they directed the grievance-generating process. Consequently, they did not need to rely on protests or mass surveys to locate and measure grievances. The state only needed to use the structural information to devise an appeasement scheme to stay ahead of collective action. Recent findings about the Chinese state's response to instability exemplify this approach. Pan (2020) finds that the Chinese state provides targeted subsidies to places with populations considered high political risks, such as ex-convicts. Wang 2014 uses provincial data to show that drops in SOE employment lead to more investment in coercive means. Moreover, the state could mix the mail post approach with the policy patrol and fire alarm methods to fine-tune the implementation.

Table 1: Mail Post vs. Fire Alarm vs. Police Patrol

	Mail post	Fire alarm	Police patrol
Information type	structural	situational	situational
Timing	*ex ante*	*ex post*	*both*
Response type	programmatic	particularistic	particularistic
Policy impact	baseline	incremental	corrective
Governance process	policy design	responsiveness	supervision

Differences in the kind of information determine the timing and type of state concessions. If the state has structural information, such as the number of laid-off workers in a locality, it can address mass grievances with *ex ante* programmatic arrangements. Table 1 summarizes the differences between the mail post and the other two approaches. In practice, the state combines the three approaches by designing its policy baselines with structural information and calibrates them on the margin in response to signals and supervision after implementation.

The empirical implication of mail post dominating fire alarm is that long-lasting structural information, such as the scale of laid-off workers in a locality, can be expected to overshadow recent signals sent as protests in determining social security policy. More precisely, we should expect the number of laid-off workers to determine baseline SSRs while experiencing protests should only correlate with incremental changes in a locality's SSRs (Hypothesis 2).

While "mail post"'s differences from "fire alarms" are more straightforward, it differs from "police patrol" in their benchmarks. Mail post bases its response on legible grievances while police patrol strives to close the gap between implementation and the nominal policy. Nyland, Smyth, and Zhu 2006 shows pervasive forbearance in enforcing the nominal SSR and my data show nominal SSR is far above the real SSR across the country. Ubiquitous violations of the social security policy discredit the argument that police patrol made substantive corrections in local states' social security policy. Moreover, police patrol would require the state to routinely collect new information about grievances which is inherently incompatible with making policies according to historical data like laid-off workers in the past.

Another empirical implication of the mail post approach is that it is less salient for populations

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that are less legible to the state. Marginalized populations bear more significant data errors in the census and get funding allocated away as a result (Steed et al. 2022). In particular, the state is expected to overlook migrant workers working in informal sectors and changing locations seasonally. According to the mail post approach, the state needs structural information to design policy responses. The ever-moving nature of the migrant worker population makes this approach much less viable. The fire alarms and the police patrol approaches still work for migrant workers when they stage protests, or there is a government campaign to secure payments for migrant workers. Still, neither is a programmatic fix for migrant worker welfare. The mail post approach allows Illegibility and intractability to explain why rural migrant workers are much less protected in the social security system despite their dominance in labor protests in China (Elfstrom 2021).

3.3 Snowballing of the Autocratic Welfare State

In democracies, the median voter is poorer than the average voter; their preference is redistributive and supports a more comprehensive welfare state (Meltzer and Richard 1981). In autocracies, the winning coalition is a minority of the population (Bueno De Mesquita et al. 2005). Hence, its preference for the welfare state is more exclusive and benefits the crucial supporting group at the expense of "other citizens" (Knutsen and Rasmussen 2018). We should expect the autocratic welfare state to be self-limiting in size instead of expanding to include more people. However, this may not be sustainable if the autocracy is forced to fund the limited welfare state with the social security contribution from other citizens.

Unlike discretionary tax revenue, social security tax creates clear expectations among the state's subjects about what public goods provisions they should get in return. Just like legal codes that unify expectations for workers, social security creates a focal point for the citizens who contribute to claiming future benefits. When the state collects social security from other citizens, they also give promises for future welfare. In turn, to fund the new benefits, the state must further expand its participation in the welfare state to include more citizens in the tax base. Eventually, the state will need to expand the limited welfare state to include all productive labor.

Moreover, local social security bureaus' surging administrative capacity and budgets create

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momentum for future welfare state expansion. As Frazier (2011, 80) recounts, the staff and offices of China's local social insurance bureaucracy nearly doubled between 1998 and 2004.

In China's case, the nationalization of various work units' micro-welfare states created immense pressure on government finance. Social unrest threatened by laid-off workers forced local administrations to find new sources of revenue to fund the nascent and limited welfare state. Non-SOE firms and their employees who never enjoyed the welfare state became an untapped pool of potential contributors. The self-reinforcing dynamic of seeking future claimants as contributors positioned the SOE reforms in 1998–2003 as a critical juncture that kickstarted the massive expansion of the social security system in the two decades after 1998.

Figure 2: Rising pension participation
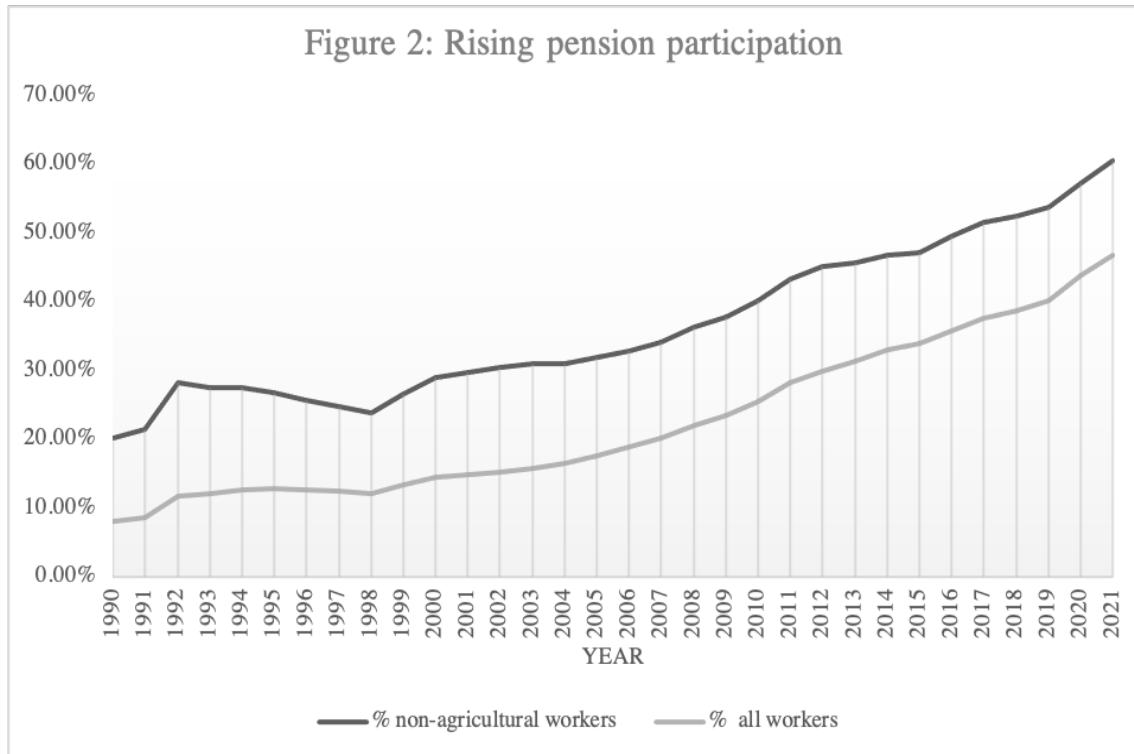
Figure 2 illustrates that urban worker pension participation declined in the 1990s and started to pick up only after 1998. Then it consistently outpaced the rapid industrialization of China to cover most non-agricultural workers. Workers participating in the urban worker pension scheme increased from 84.8 million in 1998, covering most of the 88 million SOE workers and few non-

SOE workers, to 349 million in 2021, covering 60.7% of non-agricultural workers.[11] This expansion occurs despite many of the 291 million migrant workers still lacking access to the system. The empirical implication of the self-reinforcing dynamic of the autocratic welfare state indicates that the persisting effects of the surge of organized economic losers in the future collection of social security can be observed (Hypothesis 3).

4 Research Design

4.1 Data

I construct an original dataset aggregating firm-level social security and SOE downsizing information to the county level from 2004 to 2007, the only years for which firm-level social security contribution data are published. The firm-level data are from the China Industrial Enterprise Dataset (CIED), which surveys all SOE industrial enterprises and large (annual revenue exceeding $650,000) non-SOE industrial enterprises. Using state-assigned county IDs, these firm data are matched with the Landry, Lü, and Duan (2018) county-level administrative data. County governments do not systematically report social welfare spending as late as 2020. To our knowledge, this is the first dataset that systematically measures China's county-level social welfare commitment. Due to data availability restrictions, the dataset only covers the first term of the Hu Jintao and Wen Jiabao administration (2003-2007) when the central government was characterized as prioritizing social welfare (Zuo 2015). This may impact the external validity of the analyses beyond the Hu-Wen era (2003-2012). However, it also increases the internal validity by unifying the central policy preference and incentives across the period, so ideology variations among officials are less of a concern.

I obtained social unrest data from the International Institute of Social History's Micro Labor Conflicts Dataverse. The data are based on the Strike Map project at the China Labour Bulletin (Elfstrom and Velden 2016). Only protests waged by SOE workers are selected. The dataset covers

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[11]MOHRSS, 1998 – 2021, "劳动和社会保障事业发展统计公报."

2004-2015 and geo-locates SOE-related protests to the county level, for which the period 2004-2007 is used here. [12] Given the notification system of mass incidents within the party, protests can have spillover effects on local leaders in other localities, but such effects bias against this study's results.

4.2   Operationalization

The unit of analysis of the paper is county-year because the county is the lowest administration level responsible for collecting, supervising, and managing the social security tax.[13] There are policies to centralize management of social security to higher levels.[14] Centralization allows prefectures and provinces to redistribute funding from affluent localities to insolvent localities. This would weaken the connection between the county's social security collection and its spending ability. Even if some counties' social security funds were centralized to higher levels in 2004–2007, the weakened incentive for county leaders to collect social security should be a bias against my results.

The dependent variable is the local state's commitment to the welfare state. To construct the dependent variable, the *de facto* SSR across local, large non-SOE industrial firms is used.[15] Local states exercise discretion in social security collection to balance social spending and business

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[12]Most protests occur at a prefectural level and are not geo-located to an exact urban district. Therefore, all urban districts in a prefectural seat are treated as having experienced the protest, and counties outside the urban area as not having experienced the protest. Urban districts are at the same administrative rank as counties. The reasoning is that the urban districts of a prefectural seat represent an inter-connected built-up greater metropolitan area; county seats are usually removed from urban districts, separated by a rural expanse.

[13]State Council. 1999/01/22,"社会保险费征缴暂行条例."

[14]Despite the effort to pool social security funds at higher levels, such as in prefectures and provinces, progress is slow and incomplete as of 2019. See Xinhua, 2019/09/02, "部分省市加快推进养老保险省级统筹." http://www.xinhuanet.com/fortune/2019-09/02/c_1124948968.htm

[15]Large firm is firms with annual revenue of more than 5 million RMB. They are more "transparent" to the state because they are annually required to report their accounting information. Any deviation from state regulations that is discovered in the data can be seen because of "forbearance," where the state chooses not to exercise its capacity (Holland 2016).

costs (Nyland, Smyth, and Zhu 2006). I argue that this is a superior measurement of local state commitment than social spending because frequent upper-level transfers make social spending more of a national commitment than a local commitment. In addition, China's county governments do not systematically report social spending. For each firm's *de facto* SSR, the sum of its overall contribution to pensions and medical and unemployment insurances is calculated, then divided by gross salary. To determine the county-level SSR, the simple average of the SSRs of all large non-SOE industrial firms is taken.

This study concentrates on non-SOE firms for two research design purposes. First, to better measure the state commitment, the social security contribution should be more involuntary and requiring stricter enforcement. Non-SOE owners are supposedly minimizing costs such that their default decision should be to make the minimal social security contribution to their employees. By contrast, SOEs managers do not have the profit incentive to deviate from mandated social security policy and risk employees' complaints. Second, from the state's perspective, collecting social security from SOEs is an internal transfer between different departments of the state apparatus, while the non-SOE contributions represent external funding that can save fiscal expenditure on social spending. Therefore, only the *de facto* non-SOE SSR reflects the willingness and commitment of the local administration to the welfare state. This assumption predicts that SOEs contribute more towards social security. The data corroborate this: the median county-level SSR across SOEs is 15%, while it is 5% across non-SOEs.

The independent variable is the number of laid-off SOE workers in the county during the period of SOE reform (1998-2003). The cumulative year-to-year net decreases of the county's total SOE workers is added. Admittedly, this measure underestimates the true number of laid-off SOE workers because new hiring in some local SOEs cancels out the downsizing of other SOEs in the calculation of net contraction of the state economy. However, when SOE industrial firms faced a uniformly negative economic outlook in 1998–2003, the disparity of fortunes was unlikely. As SOE development became more unbalanced post-reform, the net downsizing of SOEs became less representative of the true scale of layoffs. Therefore, the measurement is limited in 1998-2003 to avoid possible measurement errors.

4.3 Identification

4.3.1 Instrumental Variable

The paper uses an instrumental variable strategy to identify the effect of economic losers' size on government commitment to welfare. Ideally, social security data from the peak period of SOE layoffs (1998–2003) and a panel data structure would be used to estimate the temporal appeasement to the mounting pressure from laid-off workers. However, as the independent variable of historical layoffs does not vary across time, county-year two-way fixed effects cannot be used. Instead, I control for prefectural fixed effects. To ensure the results are not driven by one particular year, I analyze cross-county variations of the *de facto* SSR in each year of 2004-2007.

The obstacle to a valid identification strategy is that the scale of laid-off workers is not randomly assigned. To mitigate this concern, I use "legacy SOEs" as an instrumental variable to predict laid-off SOE workers after 1998. From 1964 to 1972, fearing nuclear warfare with the Soviet Union and the United States, the Chinese state spread its industrial investment across the country.[16] Mao Zedong established the principle of "near mountains, spread out, take cover" (靠山, 分散, 隐蔽) for new investments. Due to the haste in economic decision-making and the destruction wrought by the Cultural Revolution, many investment choices were made for security reasons with inadequate knowledge, and projects were deliberately dispersed to many counties to avoid invasion.

I use the number of employees working in SOEs founded in 1964–1972 at the beginning of the massive layoffs in 1998 as an instrumental variable. I normalize the variable with the county's total number of employees in the CIED survey.

To avoid bias introduced by the normalization term (current total employees) and SOE workforce variation introduced during 1972–1998,[17] I use, as an alternative measure, the number of

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[16]The cut points are exogenously determined by U.S. foreign policy. In 1964, the U.S. started bombing North Vietnam, alerting Mao Zedong of the immediate possibility of large-scale warfare. In 1972, the U.S. president, Nixon, visited China and normalized Sino-U.S. relations, causing the threat of conflict to recede. (Naughton 1988)

[17]To avoid large variations caused by the division of the small values of normalization terms, I trimmed

SOEs founded between 1964–1972 as an instrumental variable to instrument the logged number of laid-off SOE workers.

Table 2: Instrumental Variables and Corresponding Independent Variables

Instrumental Variables	Independent variables	Correlation
$\dfrac{\text{\# of employees in legacy SOEs in 1998}}{\text{total employees}}$	$\dfrac{\text{\# of SOE layoffs in 98-03}}{\text{total employees}}$	0.3583
$\dfrac{\text{\# of employees in legacy SOEs in 1998}}{\text{total employees}}$	$\dfrac{\text{\# of SOE layoffs in 98–03}}{\text{city population}}$	0.2111
# of SOEs founded in 64–72 in 1998	ln(# of layoffs in 98–03)	0.4880

The model specification is as follows:

First stage model:

$$\widehat{layoff}_{pit} = \gamma_0 \widehat{legacy}_{i98} + \widehat{\boldsymbol{\gamma}} X_{i97} + \widehat{\theta}_p \tag{1}$$

Second stage model:

$$SSR_{pit} = \beta_1 \widehat{layoffs}_{it} + \boldsymbol{\beta} X_{i97} + \alpha_p + \epsilon_{pit} \tag{2}$$

where $layoff_{pit}$ is the instrumented independent variable, $legacy$ is the instrumental variable, and SSR_{pcit} is the dependent variable for county i in prefecture p at year t. For each year between 2004–2007, the two stages are run once with pre-treatment county-level covariates X_{i97} and fixed effects of prefecture p.

4.3.2   Controls

The study controls for general local tax revenue per capita in 1997 to capture the local administration's fiscal capacity, which constrains social security collection and impacts the state's inclination to lay off workers. Additionally, it controls the population and the urbanization rate to capture local economic development, which determines the county's scales of both SOEs and non-SOEs.

the observations with the largest 5% instruments and independent variables.

The "near mountains, spread out, take cover" guideline of legacy SOE investment may bias the economic endowment of SOE locations. The study controls the county seat's distance to the prefecture capital and topographic features, such as relief amplitude, to capture selection conditions that impact economic endowment. Latitude and longitude are controlled, which captures the county's geographical position that may affect the availability of strategic investment in 1964–1972. Non-SOE SSR may be influenced by the proportion of migrant workers who want to contribute less, as their prospects of claiming the benefits are uncertain. To address this concern, I control the share of migrants in the county's population using census data from 2000.

4.3.3 Exclusion Restriction

For four reasons, the spatial distribution of strategic investment is independent of unmeasured causes of non-SOE social security collection during 2004–2007. First, there was no private economy or social security system during 1964–1972, so the decision-maker for investment did not intentionally impact non-SOEs' SSR. Second, the requirement for diversity investment for strategic reasons made some localities industrialized for reasons independent of their endowments (Chen 2003, 160). Third, even if some investment was made for affinity to transportation hubs or resources, this is partly addressed by controlling across-prefecture variations. I control the county's distance from the prefectural capital to address any remaining concerns to capture transportation conditions. Summary statistics for the variables used in the analysis are reported in Table 3.

Although the dependent variable is measured after 2004, the laying-off process began in 1998. All control variables are measured for 1997 to avoid post-treatment bias. As Deuchert and Huber (2017) warn, controlling for post-treatment covariates when they are common outcomes of pre-treatment covariates and unobservables that impact the dependent variable may introduce confounding associations between unobservables and instruments.

The distribution of legacy SOEs may impact current states not only through their failures but also through their successes. More legacy SOEs may lead to both more surviving SOEs and more layoffs. More SOE presence may increase the social security collection. Therefore, I also control for SOE employee share of 2004-2007 to account for this as robustness checks in Table A.1.

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Table 3: Summary Statistics

Variable	N	Mean	SD	Min	Max
Non-SOE SSR	10638	0.07	0.06	0	0.36
Log (# of layoffs)	9778	8.03	1.68	0	14.02
Layoffs over total employee	9307	0.53	0.49	0	2.44
Layoffs over urban population	9017	0.04	0.03	0	0.16
# of SOEs founded in 1964–1972 in 1998	10638	4.04	4.78	0	115
Legacy SOE employee in 1998 share	10143	0.14	0.17	0	0.81
Log (tax per capita) in 1997	8513	5.44	0.74	3.06	8.7
Log (tax per capita)	10228	6.38	1.11	0	10.74
Non-SOE effective tax rate	10638	0.09	1.96	-29.8	148.23
Rural population share in 1997	8513	75.74	23.31	0	98.35
Log (population) in 1997	8513	12.78	0.76	8.98	14.83
Migrant ratio in 2000	9920	0.05	0.08	0.00	0.91
Log (distance to prefecture seat)	10141	-1.35	1.82	-12.78	2.08
Latitude	10638	33.32	6.78	18.28	52.97
Longitude	10638	112.76	8.76	75.18	134.3
SOE-related protest	10638	0.04	0.2	0	1
Relief amplitude	9522	0.84	1.03	0.00	6.77

Methods have been developed to test the robustness of instrumental variable estimates even when the exclusion restriction assumption is partially relaxed. Conley, Hansen, and Rossi (2012) replace the (exact) exclusion restriction in an instrumental variable model with an assumption related to its support or distribution. I allow the instrument to have a non-zero independent coefficient γ on the dependent variable. γ is set to be at most 0.018. To put it into perspective, 0.018 equals 55% of the instrument's effect on the dependent variable through the independent variable (Table 3.4(3)'s 0.711 times Table 3.5(3)'s 0.046). As Table A.2 shows, the results are largely robust even if we allow a significant amount of the instrument's effects not to go through the independent variable.

The placebo test in Table A.3 shows that the potential collective action only impacts extraction from non-SOE, not SOEs, as expected.

4.3.4 Relevance of Instruments

As strategic SOEs were established following little to no economic logic, their disadvantageous endowment made them likely to suffer losses after the country gradually transitioned to a market economy. Therefore, by 1998, localities with more strategic investments ended up with more failed SOEs and experienced more significant pressure to downsize SOE workers. Table 4 illustrates the first stage of the 2SLS models in 2005. Model 4(1-2) uses the number of laid-off workers in the county as the independent variable and the number of legacy SOEs as the instrument, without and with controls, respectively. Models 4(3-4) and 4(5-6) use legacy SOE employees' share in current total employees as the instrument for both laid-off workers in 1998–2003 as a share of current total employees and the share of the urban population, respectively. The high Kleibergen-Paap rk Wald F statistic results help assuage concerns of weak instruments (Lal et al. 2021).

Table 4: First Stage: Legacy SOEs as the Instrumental Variable in 2005

| | *Laid-off workers during 98–03* | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
	log(layoffs)		% of employee		% of urban pop	
# of legacy SOEs	0.173*	0.066*				
	(0.008)	(0.011)				
legacy SOE employee			0.711*	0.552*	0.040*	0.037*
			(0.063)	(0.068)	(0.005)	(0.005)
Constant	7.308*	-16.244*	0.393*	-1.701	0.038*	-0.095
	(0.044)	(7.595)	(0.012)	(2.179)	(0.001)	(0.165)
Prefecture FE	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Observations	2381	1814	2184	1685	2152	1682
R-squared	0.514	0.657	0.423	0.485	0.320	0.386
K-P rk Wald F statistic	442.2	36.9	128.0	65.8	73.5	53.4

Robust standard errors clustered around counties.

* $p < 0.05$

Table 5: Second Stage: Legacy SOEs as the Instrumental Variable in 2005

| | Dependent variable: Non-SOE SSR | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
log(layoffs)	0.016*	0.016*				
	(0.002)	(0.006)				
share of employee			0.046*	0.039*		
			(0.012)	(0.016)		
share of urban pop					0.706*	0.506*
					(0.212)	(0.243)
Prefecture FE	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Observations	2381	1814	2184	1685	2152	1682
R-squared	0.021	0.069	0.011	0.108	-0.056	0.078
C-D Wald F statistic	608.4	58.4	168.0	86.0	79.1	58.9
K-P rk Wald F statistic	442.2	36.9	128.0	65.8	73.5	53.4
K-P rk LM statistic	254.2	34.0	126.2	69.3	74.0	55.3

Robust standard errors clustered around counties.

* $p < 0.05$

5 Results

Table 5 illustrates the second-stage 2SLS estimation of three measures of the laid-off worker scale's effects on non-SOE SSR in 2005, using their respective instruments with and without controls. Laid-off workers, instrumented by legacy SOE presence, consistently correlate with more social security extractions from non-state sectors. Note that the rural migrant share in the county is controlled, suggesting that the correlation is not driven by the lack of informal sector or migrant workers in counties with more legacy SOE presence.

Table 6 illustrates the OLS estimation of laid-off workers as a share of total employees on non-SOE SSR. Laid-off workers as a share of total employees correlated with a higher non-SOE SSR across all years in the data, with and without controls. All models passed the underidentification test and weak identification test with high values of LM statistics and F statistics (Stock and Yogo 2005).

What about years other than 2005? Table 7 illustrates the 2SLS estimates of the effect of laid-off SOE workers as a share of total employees on non-SOE *de facto* SSR, instrumented by legacy

Table 6: OLS Estimation: Laid-off workers over Total Employees

	Dependent variable: Non-SOE SSR							
	2004		2005		2006		2007	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
layoffs over employee	0.023*	0.016*	0.024*	0.016*	0.023*	0.013*	0.022*	0.012*
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Constant	0.052*	-0.093	0.057*	-0.383	0.057*	-0.068	0.057*	0.358
	(0.002)	(0.416)	(0.002)	(0.371)	(0.002)	(0.381)	(0.002)	(0.332)
Prefecture FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓		✓
Observations	2275	1748	2264	1745	2304	1770	2185	1697
R-squared	0.381	0.491	0.359	0.441	0.376	0.430	0.352	0.409

Robust standard errors clustered around counties.

* $p < 0.05$

SOE workers as a share of total industrial employees for each year during 2004–2007. Three out of four cross-sectional 2SLS models across 2004–2007 demonstrate a significant and positive effect of laid-off SOE workers on non-SOE *de facto* SSR.

Table 7: Second stage: Laid-off Workers over Total Employees

	Dependent variable: Non-SOE SSR			
	(1)	(2)	(3)	(4)
	2004	2005	2006	2007
Layoffs over employee	0.019	0.039*	0.045*	0.028*
	(0.012)	(0.016)	(0.016)	(0.013)
Prefecture FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓
Observations	1697	1685	1714	1642
R-squared	0.197	0.108	0.049	0.081

Robust standard errors clustered around counties.

* $p < 0.05$

This result is also substantive. Take a median county in 2006 as an example, where laid-off workers comprised 56% of current employees. In this county, laid-off workers would produce a 2.4 percentage-point increase in non-SOE SSR, explaining 46% of the median county's non-SOE SSR level of 5.19%. These results demonstrate that counties with more laid-off SOE workers respond to mounting pressure from losers' demands for a safety net by redistributing income from large non-SOEs owners to social security. The state redistributes economic resources from private business

owners to soften the impact of its broken promise to laid-off SOE workers.

Tables 7 (1)–(4) illustrate that more laid-off workers are correlated with lower tax per capita across all years, confirming the theorized tradeoff between discretionary revenue and social security collection. However, winners do not get tax breaks to compensate for their higher social security burden. Tables 7 (5)–(8) illustrate that more laid-off workers do not decrease the tax burden for large non-SOEs. Both winners and the state are paying the price.

Table 8: Winners Do Not Get Tax Breaks

	log(Tax per capita)				Non-SOE effective tax rate			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2004	2005	2006	2007	2004	2005	2006	2007
Layoffs	-0.234*	-0.237*	-0.206*	-0.254*	-0.004	-0.002	-0.003	-0.003
	(0.029)	(0.034)	(0.034)	(0.037)	(0.002)	(0.002)	(0.002)	(0.002)
Prefecture FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Observations	1740	1743	1766	1693	1741	1743	1766	1703
R-squared	0.842	0.829	0.822	0.809	0.468	0.451	0.466	0.476

Robust standard errors clustered around counties. Layoffs measured as share of total employee.
* $p < 0.05$

Tables 8 and 9 use the other two measures of laid-off SOE workers tabulated in Table 2. The results are consistent with Table 6. The results confirm Hypothesis 1 that the state's redistribution policy is demand-driven by the scale of economic losers and does not rely on a particular measure or instrument.

Table 9: Second Stage: Number of Laid-off Workers

	Dependent variable: Non-SOE SSR			
	(1)	(2)	(3)	(4)
	2004	2005	2006	2007
Log (layoffs)	0.008	0.016*	0.018*	0.013*
	(0.005)	(0.006)	(0.007)	(0.006)
Prefecture FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓
Observations	1817	1814	1838	1767
R-squared	0.173	0.069	0.014	0.037

Robust standard errors clustered around counties.
* $p < 0.05$

Table 10: Second Stage: Laid-off Workers over Urban Population

	Dependent variable: Non-SOE SSR			
	(1)	(2)	(3)	(4)
	2004	2005	2006	2007
Layoffs over urban pop	0.255	0.506*	0.728*	0.498*
	(0.223)	(0.243)	(0.290)	(0.233)
Prefecture FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓
Observations	1691	1682	1704	1632
R-squared	0.169	0.078	-0.012	0.042

Robust standard errors clustered around counties.
* $p < 0.05$

Table 11: Past Protest

	Dependent variable: Non-SOE SSR						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Past protest	0.011	0.010	0.012	0.013*	0.011*	0.013*	0.011
	(0.009)	(0.008)	(0.009)	(0.005)	(0.005)	(0.005)	(0.008)
Log (layoffs)	0.003*			0.001			
	(0.001)			(0.001)			
Share of employee		0.014*			0.005*		
		(0.002)			(0.002)		
Share of urban pop			0.111*			0.036	
			(0.037)			(0.024)	
L1.non-SOE SSR				0.538*	0.525*	0.535*	
				(0.024)	(0.025)	(0.024)	
Constant	0.071	-0.043	0.028	0.173	0.034	0.168	0.003
	(0.283)	(0.304)	(0.294)	(0.144)	(0.157)	(0.152)	(0.279)
Prefecture-Year FE	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓
Observations	7236	6960	6983	5346	5157	5162	7741
R-squared	0.426	0.439	0.428	0.594	0.594	0.593	0.429

Robust standard errors clustered around counties.
* $p < 0.05$

Even if the social security policy is demand-driven, is it mainly a "fire alarm" response to recent signals, as the responsiveness literature would suggest? Or is it a case of a "mail post" mechanism that incorporates prior information? The results demonstrate evidence for both mechanisms. Tables 11 (1)–(3) illustrate that demand-driven redistribution is mainly determined by prior knowledge of laid-off workers instead of their protests *ex post*. After controlling for previous SSR levels (baseline SSR) in Tables 11 (4)–(6), past protests correlate with higher SSR in subsequent years, demonstrating responsiveness to fire alarms. These results confirm Hypothesis 2 that the number of laid-off workers determines baseline SSRs. At the same time, experiencing protests correlates with incremental changes in SSRs as the local state calibrates its commitment to the welfare state according to the losers' demands.

Because of the lack of protest data before social security collection, unobserved protests in earlier periods may stimulate the higher SSR level through the "fire alarm" mechanism. However, if earlier protests can explain away the "mail post" mechanism, then past protests should have persisting effects on the SSR level. This is not the case, as seen in Table 11(7). Recent protests cannot explain baseline SSRs of 2004-2007, while sizes of organized economic losers since 1998 can. This confirms Hypothesis 3 that the surge of organized economic losers has persisting effects on the state's future collection of social security. Admittedly, if the scale of protests in the former period was significantly larger, the impact of unobserved SOE protests in the late 1990s may have lasting effects on SSR even if protests observed after 2003 do not. However, that is at odds with the rising trend of labor protests in China when the official counts of social unrest rose tenfold from 1993 to 2005 (Perry 2010). Moreover, the lack of policy response to migrant worker protests that overshadowed SOE protests in scales and dominated the "sunbelt" regions (C. K. Lee 2007; Wright 2018) further diminishes the impact of the fire alarm mechanism. More labor protests should have propelled SSR to rise rapidly after 2003 and in regions with more migrant workers, but they did not.

6   Conclusion

This paper contributes to the literature in three ways. First, it generalizes the literature on the responsiveness of states, which focuses on realized collective action or raised complaints. Authoritarian states follow a "demand-driven" strategy, and their willingness to compensate losers directly relates to the scale of *expected* collective action, not just realized action. The state responds to realized protests and potential collective action because it is in its interest to be forward-looking and preempt social unrest if it can. The state is also willing to pay a real price to appease grievance, sometimes at the expense of its overall extractions. In locating grievances, the state can use prior structural information to devise its targeted policy response in advance instead of waiting for signals. I call that the "mail post" approach, in contrast to a "fire alarm" approach or a "police patrol" approach. If the state has structural information, it can address mass grievances with *ex ante* programmatic arrangements. If the state has situational information provided by fire alarm-like protests or petitions, it addresses them *ex post* with particularistic compensation. The mail post approach also diverges from the police patrol approach as the former uses prior information to design the policy while the latter collects posterior information to safeguard the determined policy objective.

Second, this paper contributes to the literature on authoritarian welfare states. It answers the puzzle of why authoritarian states move beyond providing club goods and expand the welfare state. If the welfare state is financed by broadening participation in the system, its continuing expansion is inevitable due to surges in benefits claims. In China's case, fiscally-constrained local administrations relied on the non-state economy's participation to fund the new system and continued to include more potential contributors.

Third, this paper contributes to the political economy study of China's social security system and for the first time provides quantitative evidence for the causal link between laid-off workers and the establishment of a social security system at the county level. Using an original dataset of state effort of redistribution, the paper finds more laid-off workers led to higher social security extraction from non-SOE firms. This clarifies our understanding of the winners and losers in the

establishment of the Chinese welfare state. China's reform is characterized as allowing markets to flourish outside the planned economy before merging the dual-track price systems Weber (2021, 7). Therefore, it is unsurprising that China set up a welfare state outside the existing institutions and used the resources generated in the market to replenish the SOEs. The old exclusive social security system did not have the internal dynamism or growth potential to accommodate laid-off workers and sustain itself. The state had to seek help from the margins of the system; that is, non-SOEs whose workers were excluded from the social security system and were becoming prosperous in the marketization.

Despite the preventive appeasement observed in this paper, what should also be emphasized are the limitations of the "demand-riven" nature and the mail post approach of the state concession. In the case in this research, the state responded to the *expected* demands of citizens up to the point that social stability was largely maintained. The requirement of holding expected collective action at bay is a low standard for public goods provision. Consequently, the state failed to restrain economic winners enough to stop spikes in inequality, failed to accumulate a social security fund adequate for the aging population (discussion in Appendix A.1), and failed to protect citizens who are less legible and tractable, such as hundreds of millions of rural migrant workers. Moreover, fragmented authoritarianism (Lieberthal and Oksenberg 1988) embedded in the centralized welfare state exacerbated these problems by building up vested interests among local urban workers to resist cross-region redistribution.

Considering the direction of redistribution analyzed in this paper, who are the true winners and losers in the SOE reform and social security system? SOEs successfully got rid of the burdens of unwanted employees and the welfare promises of retirees. Local administrations and investors in the SOEs enjoyed higher valuation and profitability when the surviving SOEs later grew exponentially with preferential treatment and monopolistic status. Local administrations shouldered some welfare responsibilities but shifted the burden to non-SOE contributors with the pay-as-you-go social security system. Laid-off workers lost jobs and welfare and got partial coverage under the new social security system. Non-SOE owners flourished in the market reform but faced restraint and redistribution by being required by laws to fund the welfare of current urban workers. Non-SOE

employees became eligible to enjoy the once-exclusive welfare state by contributing social security tax. Subsequently, the SOEs, which seemed to be the underdogs in the late 1990s, are now the true winners of the reform at the expense of laid-off workers and non-SOE owners.

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Appendix

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A.1 Sustainability of China's Social Security System

China has one of the highest social security rates (SSR) worldwide. As of 2018, it requires employers to contribute 28% of an employee's salary to social security. In comparison, in the U.S., the FICA rate for employers is 7.75%. Even Sweden has a lower SSR (17.2 % in 2018). Despite the high SSR and a relatively young population, China's social security system faces a substantial deficit (fiscal transfer to social security funds amounts for 1.2 trillion yuan in 2017, 24% of the total expenditure).[18] Pressure on the social security system has worsened as the labor force began to shrink in 2012. Meanwhile, the Chinese state is not perceived as fiscally incapable. The Chinese state's overall fiscal extraction accounted for 36.7 % of GDP in 2014 and 35.7% in 2017 (including general fiscal revenue, state-managed funds revenue, state-owned capital revenue, and social security fund revenue). Even with the help of fiscal transfers, the social security accumulation is inadequate. Contextually, the U.S. Social Security Trust has a fund asset that can support 288% of its annual outgoing payments in 2018,[19] that is 34.6 months. Its trustees estimate it to be unsustainable and to be depleted by 2035. In comparison, according to data collected in 2016, only two out of 31 of China's provinces have sufficient funds to support periods of payment longer than 34.6 months (the national average is 17.2). In summary, China's social security system is unprepared for long-run demographic challenges.

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[18]Ministry of Finance,《关于 2017 年全国社会保险基金决算的说明》

[19]US Social Security Administration. https://www.ssa.gov/policy/trust-funds-summary.html

A.2 Figures and Tables

Table A.1: Second stage: With Current SOE Presence Controlled

	Dependent variable: Non-SOE SSR		
	(1)	(2)	(3)
log(layoffs)	0.016*		
	(0.006)		
share of employee		0.037*	
		(0.016)	
share of urban pop			0.479*
			(0.242)
current SOE employee share	0.011	0.014	0.015
	(0.008)	(0.008)	(0.009)
Prefecture FE	✓	✓	✓
Controls	✓	✓	✓
Observations	1814	1685	1682
R-squared	0.071	0.113	0.085
Cragg-Donald Wald F statistic	58.3	86.9	59.2
Kleibergen-Paap rk Wald F statistic	36.8	66.6	53.0
Kleibergen-Paap rk LM statistic	34.0	69.6	54.7

Robust standard errors clustered around counties.
* $p < 0.05$

Table A.2: Relaxing Exclusion Restriction

	2004		2005		2006		2007	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
layoffs over employee	0.002	0.013	0.021	0.032*	0.027*	0.037*	0.021*	0.030*
	(0.009)	(0.014)	(0.011)	(0.016)	(0.010)	(0.014)	(0.008)	(0.012)
Prefecture FE	✓	✓	✓	✓	✓	✓	✓	✓
Method	uci	ltz	uci	ltz	uci	ltz	uci	ltz
Observations	2222	2222	2200	2200	2245	2245	2123	2123
R-squared	0.005		0.026		0.022		0.025	

Robust standard errors clustered around counties. Union of confidence interval (uci) of the instrument's independent coefficient γ on the dependent variable is set as $[0, 0.018]$. Local to zero (ltz) approximation assumes γ to follow the Gaussian distribution of $(0.01, 0.008^2)$.
* $p < 0.05$

Table A.3: Placebo Test: 2SLS Estimation of SOE SSR

	Dependent variable: SOE SSR					
	(1)	(2)	(3)	(4)	(5)	(6)
log(layoffs)	0.027*	0.034				
	(0.011)	(0.052)				
share of employee			0.194	0.311		
			(0.176)	(0.312)		
share of urban pop					0.340	0.191
					(1.187)	(1.477)
Prefecture FE	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Observations	2298	1758	2121	1636	2086	1629
R-squared	-0.002	0.001	-0.007	-0.010	-0.001	0.003
Cragg-Donald Wald F statistic	588.1	55.2	159.8	82.0	70.3	52.5
Kleibergen-Paap rk Wald F statistic	509.6	34.6	124.8	64.4	64.8	46.7
Kleibergen-Paap rk LM statistic	249.4	32.2	123.1	67.7	66.3	49.3

Robust standard errors clustered around counties.

* $p < 0.05$