Just Transition in China: How Did Chinese SOEs Avoid the Massive Unemployment While Reducing Coal Capacity (2015-2020)?

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Abstract: The transition from fossil fuel to a low carbon economy is the main way to mitigate climate change. However, this will also inevitably impact the workers in the fossil fuel industry and their communities. This study focused on China's recent round of phasing out coal capacity and investigated how China's coal SOEs reallocated workers after reducing coal capacity by case studies of two SOEs in Anhui and Shanxi. In addition, it also evaluated the reallocation and mobilized the perspective of workers in these two SOEs by in-depth interviews with both leaders and workers. It finds that these two SOEs mainly reallocated layoffs by reemployment within SOEs and early retirement. It is just in the sense of high reemployment rates but questionable to call it a transition because most of the worker is still working coal mining and coal-related industries.

Keywords: Just Transition, De-capacity, Chinese SOEs, Reallocation

1. Introduction

Phasing out coal has been a main strategy to mitigate climate change, but it will also cause unemployment and the decline of the coal based local communities. Therefore, how to achieve a just transition, a transition towards a low-carbon and climate-resilient economy that maximizes the benefits of climate action while minimizing hardships for workers and their communities,[1] is a significant challenge for many countries around the world. This challenge may be even more severe in China, which must drastically reduce emissions from coal burning causing global climate change and air pollution in the coming decade, but which is also heavily dependent on coal for development and employment (the coal sector is estimated to employ 4,432,100 people in China in 2015[2]).

However, recently, China dramatically reduced 810 million tons/year of coal as part of a 3 years campaign (2016-2018) launched by the central government to reduce

[1] "Climate Justice: There Are No Jobs on a Dead Planet." International Trade Union Confederation, March 2015. https://www.ituc-csi.org/IMG/pdf/ituc_frontlines_climate_change_report_en.pdf.

[2] "Research on Employment Issues Associated with Coal Industry Transition." Natural Resources Defense Council, May 2019. http://coalcap.nrdc.cn/Public/uploads/pdf/15572343901862737562.pdf.

production capacity of coal mining, steel, and coal power sectors.[3] And although it was estimated that this reduction of capacity would generate 1,800,000 layoffs, official reports claimed that as much as 1,210,000 workers were reallocated by reemployment or early retirement.[4] Most of the capacity reduction and corresponding layoffs were planned and expected to happen in State-owned Enterprises (SOEs) coal mines, due to the large scales involved. Although a large number of private coal mines were closed before and also during this campaign, the total capacity in these coal mines appears comparatively small according to the data on National Energy Bureau. Moreover, the information about private mines workers is very difficult to access. Therefore, they were not included in this study. Nonetheless, focusing on the situation of SOE coal mines workers, who represent the majority of coal-sector employees today, is pertinent. As an extension of the Chinese government until today, job positions in state-owned enterprises (SOEs) have traditionally been considered guaranteed, and therefore called an "iron rice bowl". Since the massive privatizations of the late 1990s, SOE mass-layoffs have been especially sensitive, as exemplified by the unrest they provoked at LongMay coal mine in Heilongjiang in 2016[5]. It is therefore important to understand how Chinese state-owned coal enterprises have dealt with the unemployment cause by the mandated reduction of their coal production capacity during that period. Considering the unavoidable future transition away from coal, it is also critical to evaluate whether the way in which these SOE workers are treated satisfies criteria of justice, which has become politically prominent in global climate change discussions.

Although several studies have discussed the reallocation of workers in Chinese state-owned coal mines, nearly no research has evaluated the reallocation process through the lens of the concept of "just transition". Moreover, the perspective of workers has been largely ignored. This research combines case studies and qualitative interviews with coal workers to investigate the reallocation processes in two coal SOEs.

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[3] Diao, Yunjiao. "The Effect Our State's De-Capacity Is Remarkable, and There Will Be Other Big Actions [我国去产能成效显著, 2019 年还有这些大动作]." China Daily, May 10, 2019. https://caijing.chinadaily.com.cn/a/201905/10/WS5cd537d2a310e7f8b157bf23.html.

[4] "How to View China's Employment Situation [如何看待我国就业形势]." *Qiushi*. January 2, 2020. http://www.mohrss.gov.cn/SYrlzyhshbzb/dongtaixinwen/buneiyaowen/202001/t20200102_350530.html.

[5] "Deep in a Pit: Large Protests by Miners Augur Ill for the Government's Reform Plans." *The Economists*, March 19, 2016. https://www.economist.com/china/2016/03/19/deep-in-a-pit.

It finds that Chinese coal SOEs have mainly used early retirement and internal reemployment to reallocate workers. This way of dealing with de-capacity process can be considered "just" to the extent that it secured high reemployment rates and thus avoided mass unemployment. However, the fairness of the process itself is debatable, and the quality of the new jobs, most of which were in other coal mines, was hardly improved. Hence, it is questionable whether what the coal-mine SOEs we investigated achieved can qualify as a "transition" in the sense of moving away from coal. These findings from China's experience not only contribute to reduce coal capacity in China but also can contribute to the development of a comparative analysis of labor issues in processes of low-carbon transitions internationally.

The following section will review the concept and practice of "just transition". The third section will describe the process of case selection, data collection and data analysis. The fourth section will discuss de-capacity and the strategies of reallocation of labor in two coal-mine SOEs. The fifth section will evaluate this reallocation process against criteria derives from the concept of just transition, and mobilizing the perspective of reallocated workers collected through interview in the field. Finally, the sixth and concluding section will discuss the implications of these findings for the prospects of a fair transition to a low carbon economy in China.

2. Literature Review

This section will review the evolution of the concept of "just transition" and derive an analytical framework to evaluate the treatment of affected workforce and communities. Then it will introduce and discuss the practice of just transition both in other countries and in China and discuss the limitations of previous studies on workers reallocation in China.

2.1 The Concept of Just Transition

The concept of "just transition" was first adopted by North American trade unions

to advocate helping workers who lost their jobs as a result of environmental protection policies in the 1970s and 1980s.[6] At first, trade unions used this discourse of "just transition" to call for measures to minimize the impact of policies adopted to cleaning up the environment on employment. For example, Tony Mazzocchi, who was secretary-treasurer of the Oil, Chemical and Atomic Workers union in US and was called the "Rachel Carson in American Workplace", appealed for a "Super Fund" for workers. He argued that "those who work with toxic materials on a daily basis… deserve a helping hand to make a new start in life".[7] This is a basic principle of fairness that the burden of policies that are necessary for society—like protecting the environment—shouldn't be borne by a small minority, who through no fault of their own happen to be victimized by their side effects.[8]

As understanding of the climate crisis and sustainable development grew, labor unions began to tie "just transition" specifically to action on climate change. This was acknowledged in the Paris agreement adopted in 2015, which affirmed that "the imperative of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities".[9] Currently, Canada, US, UK, German, French, Italian, South Africa, India, Australia all initiated funds or programs to ensure a just transition when mitigating the climate change.[10]

With the spread of the just transition discourse, other groups have also adopted this discourse to make related claims, such as climate justice and energy justice.[11] As Newell states, just transition appeals to the need to ensure equity and justice to those currently without access to reliable energy supplies; to those whose livelihoods are affected by and dependent on a fossil fuel economy; as well as to current and future generations exposed to the social and ecological disruptions produced by increasing

[6] Hirsch, Thomas, Manuela Matthess, and Joachim Funfgelt. "Guiding Principles & Lessons Learnt For a Just Energy Transition in the Global South," December 2017. https://library.fes.de/pdf-files/iez/13955.pdf.
[7] Mazzochi, Tonny. "An Answer to the Jobs-Environment Conflict?" Geen Left, September 8, 1993. https://www.greenleft.org.au/content/answer-jobs-environment-conflict.
[8] Brecher, Jeremy. "How to Promote a Just Transition and Break Out of the Jobs vs. Environment Trap." Dollars & Sense, July 17, 2014. https://www.labor4sustainability.org/wp-content/uploads/2015/10/1115brecher.pdf.
[9] "Adoption of the Paris Agreement." UNFCCC, December 12, 2015. https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf.
[10] Robins, Nick, Vonda Brunsting, and David Wood. "Climate Change and the Just Transition A Guide for Investor Action." Accessed May 6, 2020. https://www.unpri.org/download?ac=9452.
[11] Hirsch, Thomas, Manuela Matthess, and Joachim Funfgelt. "Guiding Principles & Lessons Learnt For a Just Energy Transition in the Global South," December 2017. https://library.fes.de/pdf-files/iez/13955.pdf.

concentrations of greenhouse gas emissions.[12] Some scholars even suggested to integrate "environmental justice", "climate justice" and "energy justice" into a unique concept of "just transition".[13] However, this all-encompassing meaning can also make this concept fuzzy and difficult to apply heuristically. Therefore, this study will use it more narrowly, in a way much closer to the meaning originally advocated by trade unions: just transition is a transition towards a low-carbon and climate-resilient economy that maximizes the benefits of climate action while minimizing hardships for workers and their communities.[14]

To define what kind of energy transition can be called "just", it is important to clarify what justice means. Broadly speaking, justice may have two meanings: one is equality, i.e. treating people equally such as equal right to liberties and opportunities;[15] the other is fairness, i.e. treating unequal people unequally like "awards should be according to the merits".[16] It basically has three forms: distributive justice, also known as economic justice, is about fairness in what people receive, and equality here is a fundamental principle; procedural justice refers to the fact of using a fair and inclusive process to decide what is to be distributed; restorative justice, also known as corrective justice, means putting things back as they were or compensating past wrongs.[17]

In order to attune this definition of the concept of justice to the context of energy transition, this study elaborates an analytical framework to evaluate if a transition away from coal is just or not. Firstly, the benefits of phasing out coal are enjoyed by society, but the costs of phasing out coal are borne by a small group of people like coal sector workers and their communities who may lose their job and their livelihood as a result. A "just transition" should resolve this unequal distribution of costs by compensating or helping workers to get access to reemployment (distributive justice). Moreover, workers and local community bear more environmental pollution and risks when

[12] Newell, Peter, and Dustin Mulvaney. "The Political Economy of the 'Just Transition.'" *The Geographical Journal* 179, no. 2 (February 27, 2013): 132–40. https://doi.org/https://doi.org/10.1111/geoj.12008.
[13] Heffron, Raphael J., and Darren McCauley. "What is the 'just transition'? " *Geoforum* 88, (2018): 74-77. https://doi.org/10.1016/j.geoforum.2017.11.016 ; McCauley, Darren and Heffron, Raphael. "Just Transition: Integrating Climate, Energy and Environmental Justice," *Energy Policy* 119, (August 1, 2018): 1–7, https://doi.org/10.1016/j.enpol.2018.04.014.
[14] "Climate Justice: There Are No Jobs on a Dead Planet." International Trade Union Confederation, March 2015. https://www.ituc-csi.org/IMG/pdf/ituc_frontlines_climate_change_report_en.pdf.
[15] Rawls, John. A theory of justice. Harvard university press, 2009.
[16] Aristotle, and W. D. Ross. Nicomachean Ethics. Cambridge University Press, 2013..
[17] Four Types of Justice. Accessed May 6, 2020. http://changingminds.org/explanations/trust/four_justice.htm.

producing coal for others, which is a significant environmental injustice. For example, workers in coal mines have to deal with toxic gases, plus the threat of being crushed, drowned, or injured from fires and explosions. Rural communities near coal mines have to bear the environmental impact such as air[18] and water[19] pollution. Therefore, a "just transition" should aim at correcting the existing environmental injustice (restorative justice). In addition, the procedure of transition can directly influence the achievement of distributive justice and restorative justice by including or excluding workers in the decision-making process. Therefore, just transition should also allow the affected groups to participate in the decision-making process (procedural justice). In a word, for an energy transition to be called "just", it should include these three forms of justice.[20]

2.2 The Practice of Just Transition

Just Transition is not only a principle but also a process and a practice.[21] However, close examination of historical examples of energy transitions reveals that "just transition" is easier said than done. For example, a research evaluated three cases and found that: South Wales in the United Kingdom promoted inward investment to attract new industries, but these industries did not generate the jobs that the coalfield communities needed;[22] Asturias in Spain effectively mitigated short to mid-term hardship caused by job losses through early retirement schemes but also reduced incentives to retrain or search for other forms of employment;[23] Appalachian in the United States collected a coal severance tax on remaining coal production to improve

[18] Ghose, M. K., & Majee, S. R. (2000). Assessment of the impact on the air environment due to opencast coal mining—an Indian case study. *Atmospheric Environment*, *34*(17), 2791-2796. Ahern, M., Mullett, M., MacKay, K., & Hamilton, C. (2011). Residence in coal-mining areas and low-birth-weight outcomes. *Maternal and child health journal*, *15*(7), 974-979. Aneja, V. P., Isherwood, A., & Morgan, P. (2012). Characterization of particulate matter (PM10) related to surface coal mining operations in Appalachia. *Atmospheric environment*, *54*, 496-501.

[19] Silva, L. F., de Vallejuelo, S. F. O., Martinez-Arkarazo, I., Castro, K., Oliveira, M. L., Sampaio, C. H., ... & Madariaga, J. M. (2013). Study of environmental pollution and mineralogical characterization of sediment rivers from Brazilian coal mining acid drainage. *Science of the total environment*, *447*, 169-178. Clarke, L. B. (1995). *Coal mining and water quality* (p. 99). London: IEA Coal Research. Ezeigbo, H. I., & Ezeanyim, B. N. (1993). Environmental pollution from coal mining activities in the Enugu area Anambka State Nigeria. *Mine water and the Environment*, *12*(1), 53-61.

[20] Heffron, Raphael J., and Darren McCauley. "What is the 'just transition'?." *Geoforum* 88 (2018): 74-77.

[21] "Just Transition - Climate Justice Alliance," accessed March 7, 2020, https://climatejusticealliance.org/just-transition/.

[22] Bridle, Richard, Lucy Kitson, and Hongxia Duan. "At the Crossroads: Balancing the Financial and Social Costs of Coal Transition in China." IISD. International Institute for Sustainable Development, July 2017. https://www.iisd.org/library/crossroads-balancing-financial-and-social-costs-coal-transition-china.

[23] Bridle, Richard, Lucy Kitson, and Hongxia Duan. "At the Crossroads: Balancing the Financial and Social Costs of Coal Transition in China." IISD. International Institute for Sustainable Development, July 2017. https://www.iisd.org/library/crossroads-balancing-financial-and-social-costs-coal-transition-china.

infrastructure and provided public services, but the increased service-providing jobs could not pay as well as goods-producing jobs like coal mining.[24] Even the Ruhr region in Germany, which is often presented as a role model for a fair transition because of no dismissals, also took 60 years to achieve and very significant public investments, estimated around €150–200 billion.[25]

Contrary to these unsatisfactory international performances, the transition in China seems incredibly fast and easy. Trough only 3 years of campaign, China cumulatively reduced 150 million tons/year of steel capacity, 810 million tons/year of coal capacity and more than 20 million kilowatts/year of coal-fired power plants.[26] Moreover, 1,210,000 layoffs caused by this de-capacity were reallocated by reemployment within the SOEs and early retirement.[27] Although there is no aggregated data on how many proportion of layoffs were reemployed, research showed that at least SOEs did achieve very high reemployment rates, especially in 2016. For example, a study about Shanxi showed that 91.09% layoffs caused by de-capacity of coal were reemployed within SOEs in 2016.[28] Hebei Kailuan Corporate Group also reemployed 70% layoffs within the enterprise in 2016.[29] Four big SOEs in Anhui reemployed 56.3% layoffs by the end of 2018.[30]

However, these high reemployment rates reported in some SOEs may not tell the whole story, because just transition not only requires reemployment but also calls for green and decent jobs in long term. A case study focusing on one SOE in Shanxi showed that 24.3% of workers were still working in coal mines, another 16.2% was reemployed

[24] Bridle, Richard, Lucy Kitson, and Hongxia Duan. "At the Crossroads: Balancing the Financial and Social Costs of Coal Transition in China." IISD. International Institute for Sustainable Development, July 2017. https://www.iisd.org/library/crossroads-balancing-financial-and-social-costs-coal-transition-china.

[25] "Anczewska , Marta, Juliette de Grandpré, and Nikos Mantzaris . "Just Transition to Climate Neutrality Doing Right by the Regions." WWF Germany, February 2020. https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_just_transition_to_climate_neutrality_feb_2020.pdf.," 2020.

[26] "Notice on Doing a Good Job of Reducing Excess Capacity in Key Areas in 2019 [关于做好 2019 年重点领域化解过剩产能工作的通知]." The People's Republic of China. National Development and Reform Commission, May 9, 2020. http://www.gov.cn/xinwen/2019-05/09/content_5390005.htm.

[27] "How to View China's Employment Situation [如何看待我国就业形势]." *Qiushi*. January 2, 2020. http://www.mohrss.gov.cn/SYrlzyhshbzb/dongtaixinwen/buneiyaowen/202001/t20200102_350530.html.

[28] Yang, Weidong. "Theoretical Enlightenment and Policy Proposals on Staff Resettlement Problems of De-Capacity Enterprises——Based on Shanxi Coal Enterprises as Case [企业去产能职工安置问题的理论启示与政策建议——以山西省煤炭企业为例]." Coal Economic Research 37, no. 05 (July 7, 2020): 14–18.

[29] Mao, Yajun. "Research on Staff Placement in the Process of State-Owned Coal Enterprises De-Capacity [国有煤炭企业去产能过程中职工安置问题研究]." Coal Economic Research 37, no. 05 (July 7, 2020): 73–79.

[30] Meng, Jin. "The Practice and Thinking of the Diversion and Resettlement of Coal Enterprises in Anhui Province [安徽省煤炭企业去产能职工分流安置的做法与思考]." *Chinese Labour* 7 (2019): 54–55.

by a dispatched-work company established by the SOEs, and only 16.2% were subsequently working in non-coal industries.[31] Also, reemployment within SOEs may work in the short term but it is not sustainable in long term, because of the expected future decrease in coal production to address climate change.[32] Moreover, each SOE is only responsible for its own employees and reemployed them within its own system, which resulted in the lack of coordination between different SOEs. Finally, some reallocated workers were found to have to commute long way to another city to take their newly assigned position.[33] In addition, shortage of finance and limited diversification within enterprises are also mentioned by scholars as key problems.[34]

However, these Chinese language studies never mentioned nor adopted "just transition" to analyze the reallocation in Chinese coal SOEs. They viewed reallocation more from the perspective of maintaining social stability and providing policy suggestions for reallocation, rather than from a perspective of justice and long-term transition. Furthermore, the reemployment data only provides a rough picture about the outcome of reallocation but does not account for the allocation process as it is experienced by the workers. Therefore, this study uses the framework of just transition to evaluate the reallocation and contribute to filling the literature gap by combining case studies and interviews.

3. Method

The goal of this research is to explore and evaluate the reallocation in China's coal SOEs following the reduction of coal capacity during the coal capacity reduction campaign of 2016-2020. The specific questions are how China's coal SOEs reallocated the laid-off workers caused by cutting coal capacity and if it is just or not from the

[31] Niu, Mengqian, and Manhua Zhao. "Analysis on the Staff Placement in Shanxi Province to Resolve the Excess Coal Production Capacity[山西省化解煤炭过剩产能职工安置浅析]." Economic Research Reference 38 (2016): 44–48.
[32] Yang, Weidong. "Theoretical Enlightenment and Policy Proposals on Staff Resettlement Problems of De-Capacity Enterprises——Based on Shanxi Coal Enterprises as Case [企业去产能职工安置问题的理论启示与政策建议——以山西省煤炭企业为例]." Coal Economic Research 37, no. 05 (July 7, 2020): 14–18.
[33] Niu, Mengqian, and Manhua Zhao. "Analysis on the Staff Placement in Shanxi Province to Resolve the Excess Coal Production Capacity[山西省化解煤炭过剩产能职工安置浅析]." Economic Research Reference 38 (2016): 44–48.
[34] Niu, Mengqian, and Manhua Zhao. "Analysis on the Staff Placement in Shanxi Province to Resolve the Excess Coal Production Capacity[山西省化解煤炭过剩产能职工安置浅析]." Economic Research Reference 38 (2016): 44–48.

perspective of just transition. To answer these two questions, case studies and interviews were employed as the research methods for three reasons. Firstly, this research seeks to investigate the process and evaluation of reallocation, which cannot be captured by quantitative data. Secondly, the research question requires a deep understanding of the reallocation process, which case studies and in-depth interviews can better help understand. Finally, evaluating the reallocation on three justice forms requires collecting the views of workers because some evidence need to be verified and clarified by workers' voices. Especially for procedural justice, whether workers are voluntarily or forcibly reallocated to their new position, and to what extent they were involved in the decision-making process, are important aspects that cannot be known expect by talking with the people concerned. Therefore, the reallocated employees were interviewed to hear their thoughts and feelings, rather than simple questionnaires or survey, which may lack depth.

3.1 Case Selection

Ideally, we would have wanted to select the SOEs for this study according to the number of employees that needed to be reallocated, or, at least, according to the amount of production capacity they were mandated to reduce between 2016 and 2020. However, there is no public comprehensive list including all the coal SOEs in China and no public data about either the number of employees they have or production capacity they were required to reduce. Therefore, we looked first at the administrative unit, for which the amount of reduced coal capacity was published on the website of National Energy Administration (NEA).

The coal capacity reduction campaign of 2016-2020 involved 24 provinces in total. However, within each province, different prefectures achieved different levels of capacity reduction. We estimated that prefectures with more capacity reduction could be expected to have more workers to reallocate, so we ranked them based on their total reduction of coal capacity from 2016-2018, and selected the top 20 as a preliminary pool. Among them, we found that some prefectures opened more new and bigger coal

mines even as they closed old and smaller ones (mainly prefectures in the western coal bases provinces of Shanxi, Shaanxi and Inner Mongolia). They just restructured the coal sector without reducing overall capacity. However, in south and eastern China, most of the targeted prefectures closed down coal mines without opening new ones.[35] Therefore, we divided the 20 pre-selected prefectures into two groups according to their net change of coal capacity between 2016 and 2018. If the net change of coal capacity in the prefecture was positive, we classified it as capacity-inflow prefecture. If the net change of coal capacity was negative, we classified it as capacity-outflow prefecture. These inflow and outflow capacity were assumed to have a potential impact on the capacity of SOE mines to reallocate workers from closed-down mines. Eventually, we selected, A prefecture in Anhui Province (capacity-outflow) and S prefecture in Shanxi Province (capacity-inflow), based on our ability to gain access to the field, to examine whether these different contexts had an impact on the reallocation process. The precise coal mines to investigate were identified in the field, based on locally obtained information regarding the largest mines that were closed as a result of the de-capacity targets assigned to the coal SOE they belonged to.

3.2 Data Collection

Two kinds of data were collected: the reallocation numeric data from mine leaders and the interview data from employees. Once in the field, purposive sampling was adopted as method to select interviewees, because we aimed to interview individuals with rich information regarding the reallocation process, on the one hand, and workers that were reallocated according to different methods, on the other hand. Firstly, the most informed individuals such as the leaders and employees who made and implemented the reallocation policies in the enterprise were interviewed by to understand the reallocation policy and its overall process and outcomes. Then, the workers and employees who were reallocated by different ways and were reassigned to different

[35] Woodworth, Max D. "China's Coal Production Goes West: Assessing Recent Geographical Restructuring and Industrial Transformation." *The Professional Geographer* 67.4 (2015): 630-640.

coals plants were interviewed to learn about their own experience and feelings about the reallocation. However, this process was sometimes dominated by the leaders since we depended on them to select the interviewees. Some leaders may prefer to select positive examples, which would include bias in the responses obtained. Fortunately, we usually conducted the interviews in a private meeting room without the leaders being present (but with co-workers present). Overall, we conducted 27 interviews in prefecture city AC in Anhui, 35 interviews in SC in Shanxi. Based on the process of de-capacity and reallocation, several questions were asked to both leaders and workers, and the responses were triangulated. Leaders in enterprises also provided some documents and reallocation results.

3.3 Data Analysis

Themes and codes were derived from the framework of just transition, and coding process conducted in Nvivo. Procedural justice focuses on procedure and can be analyzed by evaluating the degree of involvement and participation of workers. Distributive justice focuses on the distribution and offsetting of the socio-economic costs of transition and can be analyzed by evaluating the reemployment and income change of reallocated workers. Finally, restorative justice concentrates on the distribution of the environmental benefits of the transition and can be analyzed by evaluating the change of nearby and workplace environments (see Table 3.2.1).

Table 3.3.1 Just Transition Analysis Framework

Justice form	Focus	Criteria
Procedural justice	Involvement and participation	If workers were informed of the closure? If they can participate in the decision-making process on both de-capacity and reallocation measures?
Distributive justice	Social economic costs	If the reemployed position is better or worse? If the income increase or decrease? If the

		workplace is closer or further? If the workers are satisfied with the reallocation?
Restorative justice	Environmental benefits	If the nearby and workplace environment is better or worse? How do they think about the relationship between environment and economy?

4. De-capacity and Reallocation

Eliminating backward capacity has been a recurring policy in China since 1998, but heavy reduction always happened after overcapacity. After the transition from planned economy to socialist market economy, China experienced three episodes of overcapacity in 1998–2001, in 2003–2006 and a longer episode after 2009.[36] The first and third were respectively driven by Asian Financial Crisis and Global Financial Crisis, while the second was caused by over investment.[37] Once a situation of overcapacity was identified, the central government usually reacted by limiting the production and reducing the backward capacity. The de-capacity campaign of 2016-2020 is no exception.

4.1 De-capacity and Reallocation Policy

In the end of 2015, the Central Economic Work Conference pointed out that structural overcapacity was still serious. In February, 2016, the State Council issued an opinion proposing to reduce 500 million tons/year and restructure 500 million tons/year of coal capacity within the next 5 years, by using various policy instruments.[38] Based on this document, in March 2016, the National Development and Reform Commission

[36] Hao, Xuguang, et al. "De-Capacity Policy Effect on China's Coal Industry." Energies 12.12 (2019): 23-31.
[37] Qing Yang et al., "The Drivers of Coal Overcapacity in China: An Empirical Study Based on the Quantitative Decomposition," *Resources, Conservation and Recycling* 141 (February 1, 2019): 123–32, https://doi.org/10.1016/j.resconrec.2018.10.016.
[38] "Opinions ofthe State Council on the Coal Industry to Eliminate Excess Capacity and Realize the Development of Relief [国务院关于煤炭行业化解过剩产能实现脱困发展的意见]." The Central People's Government of People's Republic of China, 2013. http://www.gov.cn/zwgk/2013-10/15/content_2507143.htm.

(NDRC) required to determine the coal production according to 276 working days rather than 330, which reduced production by 16% because production was banned on legal holidays and on Sundays now. This policy had a big impact on reducing coal production since coal mines could not produce more than the capacity assigned to them every year. In July of the same year, the NDRC issued a document about capacity replacement (*Chan Neng Zhi Huan*), which required enterprises to reduce equal or more coal capacity in exchange for the permit to build new capacity.[39] This measure not only controlled the increase of total nationwide coal capacity, but also provided financial support for the closed coal mines to reallocate workers since they could sell their reduced capacity to others.

This policy was very effective. By the end of 2018, China had reduced 810 million tons/year of coal capacity.[40] The average national coal mine production capacity increased from 0.3 million tons / year to 0.92 million tons / year. To avoid massive unemployment, the Ministry of Human Resources and Social Security (MHRSS) proposed four measures to arrange for the reallocation of the workforce on 7th April 2016: enterprises' internal reemployment, reemployment outside the enterprise, early retirement, and reemployment in public positions.[41] On May 10th, the Ministry of Finance established a 100 billion special funds to encourage local governments and SOEs to reduce capacity faster, and this fund could only be used to finance the reallocation of the workforce.[42] Under these policies, the central government published figures claiming that 1.21 million layoffs caused by de-capacity had been reallocated, although this figure also includes all the layoffs in steel, coal, and power sector, which

[39] "Notice on Matters Related to the Implementation of Reduction Replacement and Strict Control of New Coal Production Capacity [关于实施减量置换严控煤炭新增产能有关事项的通知]," May 18, 2017.
http://nyj.yn.gov.cn/wap/zwgk_wap/zcjd_wap/201907/t20190729_113353.html.

[40] Diao, Yunjiao. "The Effect Our State's De-Capacity Is Remarkable, and There Will Be Other Big Actions [我国去产能成效显著, 2019 年还有这些大动作]." China Daily, May 10, 2019.
https://caijing.chinadaily.com.cn/a/201905/10/WS5cd537d2a310e7f8b157bf23.html.

[41] "Opinions on Doing a Good Job of Staff Placement in the Process of Eliminating the Overcapacity in the Iron and Steel Industry and Realizing the Development [关于在化解钢铁煤炭行业过剩产能实现脱困发展过程中做好职工安置工作的意见]." The Ministry of Human Resource and Social Security, April 7, 2016.
http://www.mohrss.gov.cn/SYrlzyhshbzb/jiuye/zcwj/JYzonghe/201604/t20160413_238000.html.

[42] "The Ministry of Finance Issued the 'Special Awards and Supplementary Funds for Structural Adjustment of Industrial Enterprises' Notice of 'Administrative Measures' [财政部关于印发《工业企业结构调整专项奖补资金管理办法》的通知]." Ministry of Finance of People's Republic of China, August 30, 2018.
http://tfs.mof.gov.cn/mofhome/mof/zhengwuxinxi/caizhengwengao/wg2018/201810WG/201902/t20190213_3146556.html.http://tfs.mof.gov.cn/mofhome/mof/zhengwuxinxi/caizhengwengao/wg2018/201810WG/201902/t20190213_3146556.html

was expected to generate 1.8 million layoffs.[43]

4.2 De-capacity and Reallocation in Anhui A Corporate Group

A Coal Mining Corporate Group is one of provincial coal SOEs in Anhui. Anhui State-owned Assets Supervision and Administration Commission (ASASAC) holds 75.16% of its stocks. After 2000, it began to diversify and developed various industries like power, real estate, logistics, finance, technical services, etc. Thus, in case of losses in coal production branch, these industries could effectively play a role of profit hedging, as stated in a document collected during fieldwork. For example, the coal sector of A Corporate Group lost 38.3 billion RMB in 2015, but the total loss for the group shrunk to 19.6 billion RMB as coal losses were offset with benefits from other industries. A Corporate Group controls 13 coal mines with a total of 70.4 million tons / year of capacity located in city AC. One coal mine with 0.9 million tons/year was suspended in 2014, while others all still operated in 2015. A Corporate Group also controls 3 new coal mines with 12 million tons/year in total in Inner Mongolia, which entered joint trial operation phase at the end of 2015.

Once the Central de-capacity document[44] was issued by State Council in February 2016, A Corporate Group made a comprehensive plan for reducing coal capacity and reallocate the workforce. When deciding which coal mines were to be closed, the leadership mainly considered the economic losses and security factors. Ultimately, they decided to close four coal mines, the details have been listed in Table 4.2.1. It is worth noting that coal mine A1 was suspended and merged with A3 in 2014.

Table 4.2.1 Information of Four Closed Coal Mines

	A1	**A2**	**A3**	**A4**
Established time	1960	1952	1947	1983
Capacity (mt/y)	0.9	3.3	4	6

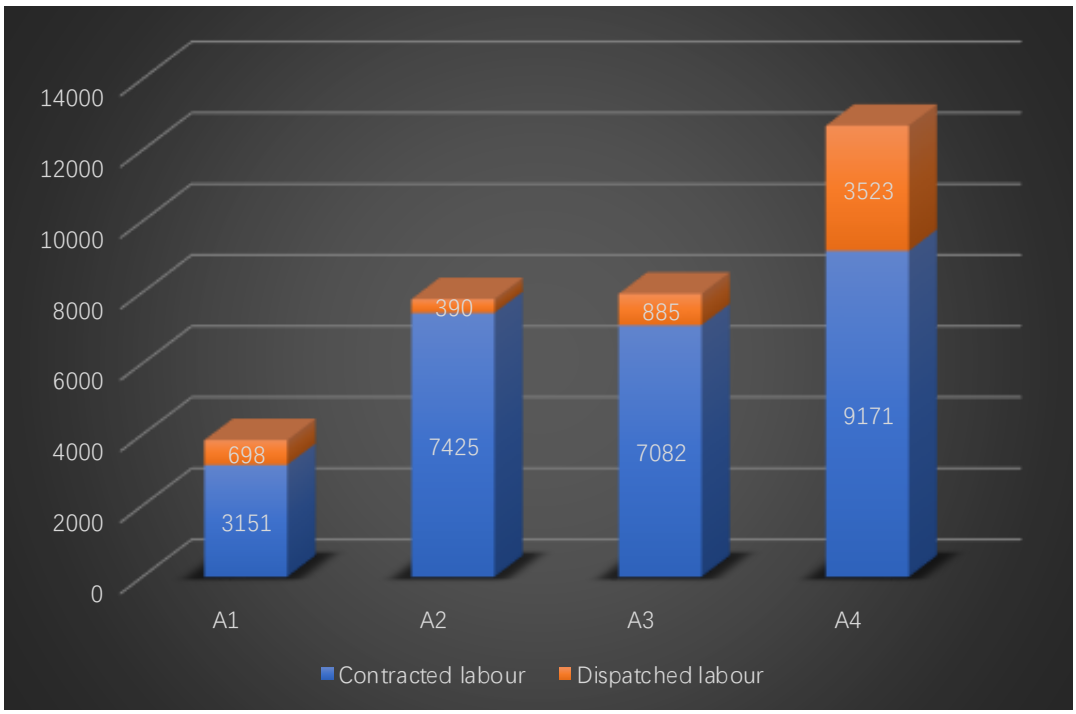
[43] "How to View China's Employment Situation [如何看待我国就业形势]." *Qiushi*. January 2, 2020. http://www.mohrss.gov.cn/SYrlzyhshbzb/dongtaixinwen/buneiyaowen/202001/t20200102_350530.html.

[44] "Opinions ofthe State Council on the Coal Industry to Eliminate Excess Capacity and Realize the Development of Relief [国务院关于煤炭行业化解过剩产能实现脱困发展的意见]." The Central People's Government of People's Republic of China, 2013. http://www.gov.cn/zwgk/2013-10/15/content_2507143.htm.

Economic losses (billion)	0.494 (2013)	0.749	0.861	1.304
Incidents happened in the history	3	62	26	17

These four closed coal mines generated 34583 layoffs in total. Three kinds of workers were concerned: outsourced workers, dispatched workers and contracted workers (AW09). 2200 outsourced workers had their service contract terminated and were thereby eliminated from the workforce. The dispatched workers were supplied by two previous sub-companies of A Corporate Group, which now are prefectural state-owned enterprises of the prefecture AC. The difference between dispatched workers and contracted workers is that dispatched workers have no housing provident fund and enterprise annuity. These dispatched workers can become contracted workers if they worked over 5 years, attended for 250 working days every year during the two years of assessment period, and have no violations. The number of these two kinds of workers are displayed in Figure 5.2.1.

Figure 4.2.1 Employment in Four Coal Mines



In accordance with policies issued by the MHRSS and the provincial government, A Corporate Group decided to implement a mandatory early retirement policy and

apply it to all its employees (excluding dispatched workers) not only in the four coal mines, but also in other enterprises. According to the internal report, implementing this policy was not only aimed at making room for the layoffs from the closed coal mines, but also to implement a principle of fairness. As the report said: "We cannot just ask employees in the four coal mines to sacrifice themselves since it is not their faults. Instead, other employees belonging to the Corporate Group all have to take this burden together."[45]

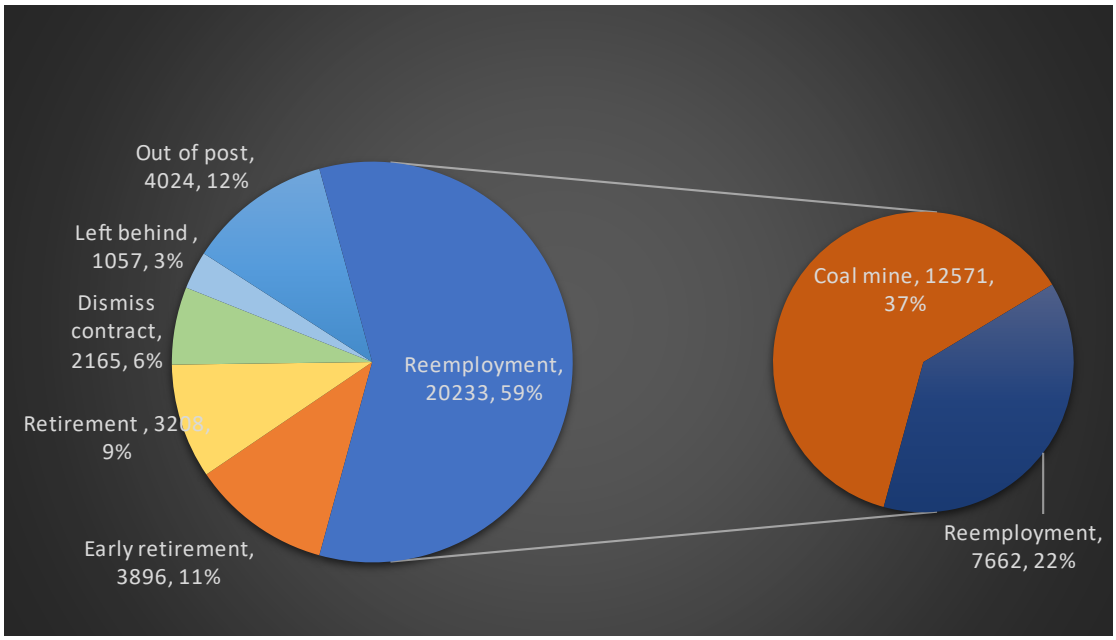
Subsequently, different levels of managers and workers obtained different early retirement policies. First level of managers were asked to retire one year mandatorily in advance, and they could get 70% of the annual salary income of their previous position in the first year, 60% in the second year, 50% in the third year. The second level of managers were asked to retire two years in advance, and they got 70% of the last month salary of the same position in the first year, 60% in the second year, 50% in the third year. The general technical managers were asked to retire three years in advance, and they got their performance salary plus annual merit salary of previous positions. Workers were asked to retire 3 years in advance and got a fixed 1500 RMB per month.[46] In total, 11% of layoffs across the four closed coal mines were retired earlier (see Figure 4.2.2).

Another part of the workforce was reallocated. The underground frontline workers from the four closed coal mines were reemployed in other existing coal mines by teams, because these teams are difficult to form (AM09) and because coal mines always lack underground workers. Most of these underground frontline workers were dispatched workers (AW22, AM24), so they actually were more easily reallocated to the same positions in other mines. Other ancillary underground workers and surface workers and employees were reallocated in other old or new plants. As a result, 59% of the potential layoffs were reemployed in other Danwei under the A Corporate Group, of which 37% were still in coal mines (see Figure 4.2.2).

[45] Report on A Mining Group's implementation of a unified employee retire policy during the elimination of excess capacity [关于 A 矿业集团化解过剩产能期间实行统一的员工离岗退养政策情况汇报].4th July, 2017.
[46] "Huainan Mining Group Employees Retired While Resolving Excess Capacity[淮南矿业集团化解过剩产能期间员工离岗退养]." Coal Mining Security Website, September 12, 2016. http://www.mkaq.org/item/389515.aspx.

Another 3% of the workforce were left to work in the closed mines. These people include employees in Human Resource Department and logistics, who still had work to do there. In addition, these 3% also include workers that have to work nearby to take care of family or have working incapacity and thus cannot be reallocated but needed support (AW22). These workers were transferred to an organization called Old Coal Mines Affairs Office. Another 12% of the workforce considered "out of post", such as employees who temporarily left their post when coal prices were low to do some other jobs, and disabled and sick workers (AM09). They are the legacy of SOEs, and the SOEs still have to pay those wages according to the minimum living standard of the AC prefecture every month (AM09). In the end, only 6% of the workforce, usually younger and with less working experience or poor performance, were laid-off.

Figure 4.2.2 Reallocation in A Group: 34583



4.3 De-capacity and Reallocation in Shanxi S Corporate Group

S Corporate Group was a Coal Mining Bureau in the based county city SC. It was one of eight biggest Coal Mining Bureaus in Shanxi in the past. Then, it was integrated with other Coal Mining Bureaus in other cities and formed one of biggest provincial

SOE in Shanxi, which controlled near 40% coking coal production in China and thus can decide the price of coking coal (SM01). However, this provincial SOE only controlled 58.8% stacks of S Corporate Group, so S is relatively independent. During this round of de-capacity (2016-2020), S Corporate Group was also responsible for its own de-capacity and reallocation. S at first had 5 coal mines in the based county city SC. During the resource integration period (2010-2015), it extended outside the based county city and now has 11 coal mines in other regions of Shanxi. S closed 5 coal mines with 5.55 million tons/year during this round of de-capacity (2016-2019). However, the fieldwork only collected the reallocation data from two closed coal mines: S1 and S2. But the total capacity of these two closed coal mines account for 70% of the total reduced capacity (5.55 million tons/year), thus the data in these two coal mines still have representativeness.

S has no dispatched labours, all of workers are contracted labours. But they have divided as fixed labours, enterprise internal labours, urban contracted labours and rural contracted labours. The fixed labours are the workers who entered the SOE before 1985. They just needed to sign one contract which is from 1995 to the age of formal retirement. The enterprise internal labours are hired within the enterprise like the children of coal miners. They have no company annuity. Urban contracted labours can sign 5 years of contract twice (10 years) and then become fixed workers. While rural contracted labours can sign 3 years and 5 years contract and then become fixed workers. But they have no housing fund and company annuity. Once becoming fixed labours, the enterprise cannot fire fixed workers without any reasons, unless the workers leave by themselves (SM22).

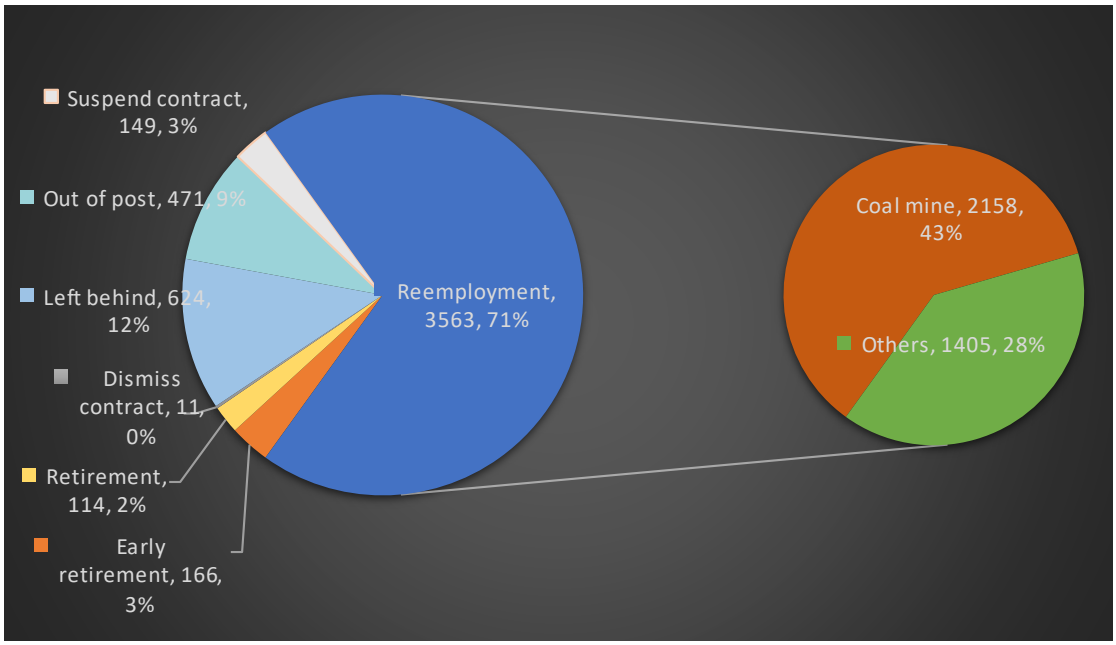
Unlike Anhui, where the reallocation mainly depended on decisions taken by A Corporate Group, the closed coal mines like S1 in S Corporate Group developed many sub-companies to reallocate layoffs. S1 was shut down in 2018 because it had run out of the resources. The leader realized it would be closed one day, thus they started transitioning very early in 2013. Now, S1 has become a company and manages two new coal mines of S Corporate Group with each 90 million tons/year (one has been operating,

the other is waiting for license, but both are the old integrated small coal mines during 2010-2013), a mining equipment installation company, a media company, several supermarkets, a railway maintenance team, and truck transportation team as well as other planning investment projects such as home care pension industry. The most famous is a cultural media company that trained part of layoffs to do 3D animation about coal mining and sell them to other coal enterprises for training miners. Therefore, 78% of the layoffs from S1 have been mainly reemployed in its own subordinate companies, although 41% were still reemployed in the new local coal mines.

S2 was closed suddenly following the visit of central environmental inspectors who reported that it was depleting the underground water. Therefore, S2 nearly had no time for transition and 77% of the employees were reemployed in other sub-companies under the S corporate group; 51% of them are still working in coal mines.

Combining S1 and S2, 71% of the layoffs were reemployed in other Danwei of S Corporate Group, of which 43% were reallocated to other coal mines. Only 3% were retired earlier, and 2% were retired normally. 12% were left to work in the closed mines because they had developed many sub-companies like S1, and because they are waiting for further reemployment in S2. 9% were out of post, in the same way as A Corporate Group. 3% suspended contract to find other jobs when the price of coal was very low and SOE coal mines could not pay full wages. In the end, only 11 employees were actually laid-off in the sense of terminating their contract.

Figure 4.2.3 Reallocation in S Group: 5098



As we can observe, the reallocation process was very different from Anhui A Corporate Group, which relatively had lower reemployment rate (59%) but higher early retirement rate (11%). This difference may be caused by the various efficiency of two groups. The ratio between employee and capacity in the A Corporate Group is 2435, which means producing one million ton of coal needs around 2435 employees. Therefore, A had a large number of layoffs (34583) that have to be reallocated. However, the ratio between employee and capacity in S1 and S2 in total is 1307, which is much lower than A Group. Therefore, there were only 5098 layoffs in S1 and S2 even though the capacity cut was larger than in A group. Although there is no data about the other three closed coal mines of S, the total number should be much lower than A Corporate Group because S1 and S2 account for 70% reduced capacity of S. Secondly, Anhui is in south China, which has less new capacity for supplement. While Shanxi is one of the famous coal-based provinces and has opened many new coal mines alongside reducing capacity. Therefore, it was comparatively easy for S to reallocate the layoffs, since they had new coal mines to send them to, although they are located in other counties and cities. A also had new coal mines, but they are located in Inner Mongolia, which are too far away for workers. A tried to reallocate some voluntary workers to Inner Mongolia and refunded the transportation fees between Anhui and Inner Mongolia. However, it proved too costly due to the long distance and high transportation expenditures.

5. Justice Evaluation of the Reallocation

This section will evaluate the justice both in Anhui A Corporate Group and Shanxi S Corporate Group. Then, it will compare and summarize the differences and commons.

5.1 Anhui A Corporate Group

5.1.1 Procedural Justice

For procedural justice, the decision-making process of closing certain coal mines was made at Group level. The workers just heard that leaders of different coal mines got together and decided to close the four coal mines (AW06). The official reasons provided by the leadership to justify this choice were the long-term losses and security threats. However, most of the interviewed workers at mine A4 felt pity about the closure because their mine still had a decent production capacity of 6 million ton / year and has only operated for 36 years, which much shorter than the designed operating year of 100 (AW06, AM08, AM15, AM24). For example,

"The specific reasons for the closure cannot be told to you because only our group leaders can explain it clear. For our mine, we feel that we should not be closed because we still have a lot of coal reserves underneath. As employees, we cannot understand and most of us think it is a pity. We are reluctant but we have no choice. For the reasons, I have said, one is the high risks and the second is the serious losses. Are there any other reasons? This is the business of leaders" (AM08).

"*It is such a pity to close them! The state's order caused us to lose billions of money……Our state's system is indeed very short, flat and fast (Duan Ping Kuai). In the later period, our cost was only over 300, while the coking coal we produced was of particularly good quality. The market price reached more than 700, which at least earns hundreds of millions for the group……According to the rumor, after turning off these coal mines, some coal bosses came and said, if you don't give me high-quality coal but only give me thermal coal, I don't buy it." (AM24).*

For the decision-making process of reallocation, most of interviewees said the decision was made by the Human Resource Department of the corporate group except for the last batch, for which workers were asked to express their preference for reallocation. This point was confirmed by the manager who works in the Human Resource Department and made the plan.

"This is a unified policy adopted at the Corporate group level. Workers' participation is not much, but it is necessary to go through the labor congress. This is also a kind of participation. If everyone participates, we cannot do anything……For the last batches, considering the harmony and stability, we take personal wishes into consideration. As long as the choice is within the scope of the rules and you choose it, we will allocate you according to your willingness. In the past, it was basically a unified arrangement in the group level. If you have special need, you can propose it in advance" (AM09).

This reallocation can be considered as relatively fair because no interviewee heard any corruptions.

"The first one (most important) is to ensure the stability of the entire team. All operations must not go through the 'back door'..... Basically, they (workers) are divided according to the needs of each Danwei, and no one is allowed to pick……This process is relatively open and transparent without other black deals……I have been an manager in this group for 10 or 20 years, and I know many senior leaders. If I can go through the 'back door', I won't be here. I cannot ensure there is no 'back door' at all, but I did not heard that" (AM15).

There was also no difference between dispatched labor and formal labor on reallocation. Even the two dispatched workers we interviewed agree with this (AW01, AW17). Actually, since most of the dispatched workers are underground workers, and since these positions are more difficult to recruit, it was easier to reallocate them in other mines basically in the same position (AW23).

If the workers were not satisfied with the reallocation, they could apply for changing the positions, but it is very difficult. The worker has to write applications to leaders,

and then it has to be approved by the leaders at group level. One interviewee has changed to work in another coal mine to get closer to his home several years ago, and he admitted that he had to "manipulate a little bit" (*Cao Zuo Yi Xia*) (AW23). Therefore, most of workers just passively complied with the reallocation decision. Among our interviewees, three workers think the reemployed position is not good, so two of them retired earlier and found another job. One dispatched labor, who could therefore not retire earlier, thought the new coal mine was very intensive and corrupted, so he ended the contract and worked as a delivery (AW01).

"You have to obey, wherever they asked you to go, you have to go. What can you do if you don't obey? (AW14)

Secretary: Disobedience is fine, but you have to be laid off" (AM15)."

But it is relatively easy if the worker wanted to move from ground to the underground.

"You can write an application to apply for it step by step. Moving from underground to ground is called countercurrent, while moving from ground to underground is called downstream" (AM15).

5.1.2 Distributive justice

As discussed in section 4, workers have been mainly reemployed in other mines of the coal mine group. The new positions are similar with the previous ones because the reallocation was based on the principle of similarity. Therefore, among 12 reemployed interviewees in Anhui, only 3 were reemployed in different positions.

"Our requirement is to arrange for the same position in other mines. In principle, whatever position you were in originally, you will still work in the same position after you go to the new mine. However, there may be some positions that are surplus in other Danwei, so you cannot be reallocated. Then, you will be reemployed in other positions through professional training" (AM09).

With regards to wages, we learned that the wages calculation in coal mines of A Corporate Group depends on four factors: the quota that the Group planned for each coal mine according its capacity, the achievement of each coal mine comparing with

the original planned quota, and the importance of the position (the wages of workers in frontline, second line, and third line are 3:2:1), and scores that the employee earned (AM08, AM09, AM11). Therefore, the change of wages mainly depends on where you go.

"*There must be changes in wages because the benefits of each Danwei are different. The production is different, the type of mines is different, and then the salary will also be different……With so many people, it is impossible for all to have higher wages or have lower wages. It must be someone's wages are higher while others' are lower. Moreover, the positions are different. If you work in frontline before but now work in auxiliary positions, then the wage must be lower. Otherwise, it will be higher. This is for sure" (AM09).*

However, there is no very big difference among different coal mines for the same position because the Group will redistribute all the profits made by each coal mine (AW20). Among the 9 interviewees who are reemployed in the same positions in Anhui, 6 employees who were reemployed in new coal mines said the wages were a little higher, while 2 who were reemployed in old coal mines said no big difference.

The differences mainly come from different positions like frontline, second line, third line. For example, two interviewees worked in the coal mine to test the quality of coal (second line) and had a wage of around 5000 before. Now, they were reemployed in a new established coal washing plant (third line) to operate the machine, which they said are much more intensive, but they only earn 2000. These two workers' secretary, whose wages also decreased from 13000 to 10000, explained that this is an exception and cannot represent the whole reallocation. The coal washing plant was traditionally regarded as a subsidiary of the coal mine, and the raw coal was sold after a simple wash in the past. Therefore, workers in coal washing plant could only take the lowest wages as third line. But now all the impurities in raw coal have to be washed out and turned to clean coal. The price of clean coal is over three times that of raw coal, thus coal washing plant have contributed a lot to the profits. However, the old idea that the coal washing plant is a ground Danwei and work in third line has not been changed. In

addition, the workload is very heavy in the new coal washing plant. They use the same number of workers to produce three times of outputs of one old coal washing plant (AM12).

"Just compared with coal mines and coal washing plants, workers in coal mines also work for 12 hours, but the continuous workload is no more than 6 hours. Here you nearly have no time for break except at noon, when two workers have to eat lunch alternately. Look at their faces……Therefore, the group has to reform the wage system like the other coal SOE in neighbor prefecture, where the workers in coal washing plant were regarded as second line and earn the equal wages with auxiliary workers underground" (AM15).

The promotions of some managers have also been impacted by the reallocation. For example, one employee who worked as the leader of Human Resource Department in the A4 coal mine was reallocated to another coal mine has confirmed this.

"Employees like us can temporarily not be promoted. Also, after you go to the new Danwei, the position is already filled, and you have to transfer to other positions. It is a new environment they may discriminate you….." (AM08).

The new working environment is also different. The new coal mines usually in rural area, which is further away from their home, thus they have to live in dorms and only go back home once a week. Sometimes, the coal mine even do not allow workers to go back during weekdays because they are worried about traffic accidents.

"The new mines are all going west and countryside. The drawback is that they are far away from home … There are all farmlands around here without any living districts. He just had a call for carpool because he cannot call a car here. This should be subsidized" (AM15).

In addition, the work in new coal mines, especially the joint venture coal mine, is more intensive and faster, we can feel that during the fieldwork. The employees in new coal mines are very concentrated and fast-paced, while employees in old coal mines seem more relax. The relationship among workers are also closer in old coal mines. This also takes time for the reallocated workers to fit in. One dispatched labor said their

colleagues who are reemployed in certain coal mines are even discriminated in the new coal mines (AW17).

"The requirements here are stricter, indeed stricter, and the pace is faster here than our old mine … people are more enthusiastic and more affinity there (old mines), but here everything has to follow the rules and regulations like one is one and two is two. While standards have more room to float up and down there (old mines)" (AW23).

However, in spite of these difficulties, when we asked workers if they were satisfied with the reallocation, most of them said "basically satisfied"; except the two workers who are reallocated in the coal washing plant. It seems that they derived this conclusion more from a perspective of comparison.

"Although our mine is closed, and the staffs were reemployed and adjusted, the Group Corporate has not left any employees down. As long as you meet the conditions, they will reemploy you in the corresponding position as far as possible to meet your own wishes. They at least guarantee every worker has food and clothing. I think they have done a good job! At least, it's better than another coal mine, which belongs to another SOE. I heard that this coal mine offers very low wages to force you leave by yourself" (AW26).

Also, some interviewees mentioned the situation in small coal mines that closed several years ago. The workers are even worse.

"They were city level state coal mines and only had several million tons/year. These small coal mines were indeed unsafe. Most of the workers were bought (Mai Duan), i.e. gave some money once time. The number of them was relatively small but still quite a lot for a district. We felt illegal taxis (Hei Che) were very common during that time and the local government paid less attention to them because they know these people have to survive or they will cause social instability" (AM25).

Actually, the illegal taxies are also very common in the district where A4 is located in, which repeated the history after closing small coal mines. The drivers even competed to run behind your cars and grasp your staff to force to take his cars (AC02), which made us scared during the fieldwork.

5.1.3 Restorative Justice

Most of them agreed that the environment near the closed coal mine has been improved, but the impact was geographically limited and had no big impact on other districts within the city.

"It definitely has an impact on the environment… There are no coal mines, so the environment has improved. In the past, dust is everywhere, but now it is much better. However, here is still not good because this district still depends on coal. The closure of coal mines in there has small impact on here" (AM11)

Also, since most of the workers have been reemployed in other coal mines, they have not enjoyed the environmental benefits caused by closing coal mines. But generally, according our experience during fieldwork the working environment near new coal mines appeared to be better than in the old ones.

In the past, state coal mines had their own communities, hospitals, schools, and independent social insurance systems. They even provided electricity, water, and gas to their own communities (AM07). Now, all these social functions have been transferred to the local government. In addition, the ecological restoration is mainly conducted by the local government, who buys the land back to develop some other industries or give it to prefectural level SOEs. The city has developed tourism and agriculture in coal mining area, but it is not very successful until now. One promising industry is recovery and reuse of solid waste from coal power.

5.2 Shanxi S Corporate Group

5.2.1 Procedural Justice

Like Anhui, the S Corporate Group in Shanxi also decided which coal mines would be closed. S1 was closed because it had basically used up its coal resources. Workers had to travel 2 hours underground to arrive to the working site (SM02, SM06). It had a small capacity (1.2 million tons/year) but a large number of employees, and thus

experienced long-term losses. In the end of 2015, S1 was included into the de-capacity list by S Corporate Group. Therefore, they had more time for transition, and we did not hear anyone complain about the closure of S1. By contrast, S2 was closed very suddenly because environmental inspectors found that its operation decreased the local groundwater level.

When we asked why it was closed recently since it had existed for long time, most of workers said it is because the environmental pressure got bigger recent years especially after 2015 (SW20, SW29). However, some workers did not fully accept this reason (SW20).

"This water basin has been dry for many years. Even if you close the coal mine, the water won't come back. On the contrary, its closure has caused big losses to farmers because the water we released was used by them to water the corn. Now, their corn have all died" (SW20)

The incomplete procedure makes it foggier.

"The environmental protection is just an appearance, and I think there are more political factors. There are many mines in the basin, some have closed, but some have not. Since I started to work here, the coal mine located in the center of water area, but they did not close it. We did not receive any documents, but just closed after a meeting. When we went through the closing procedure, we had to report it to the local government and ask them to inspect it. However, the local government even asked us to tell them who ask us to close. After one year, we received a document about de-capacity" (SM25). (Others said the environmental inspection proposed closure at first, and then the provincial government had a meeting to discuss it. Then, the coal mine closed before the issue of the document (SW29)).

For the decision of reallocation, unlike Anhui, where the group was responsible for reallocation, the coal mines of S have been more independent, and developed their own sub companies. S1 even made its own reallocation plan and reallocated workers in its own sub-projects. Therefore, most of its workers did not need to move very far. The plan was discussed by the representatives of workers but did not go through the labor

congress, which is held only every two or four years (AM03). The official document obtained in the field shows that no one disagreed or abstained among all 142 representatives. The S Corporate Group only provided policy support (SM03). For example, if the mines wanted to develop some new projects and sub companies, they needed the approval from the Group. S1 developed several sub companies and projects, like a 3D Animation Company, managed two coal mines, an Installation Company, several supermarkets, a Railway Maintaining Team, and a Truck Team. The two mines are a Township and Village Mine (TVM) and a mixed-ownership mine, which were acquired by S during 2010-2015. These coal mines had a relatively small number of workers and out-sourced workers, most of whom were dismissed with some compensation; S also has absorbed some previous workers. One entered the joint trail but the other was later suspended because it impacted the same water basin as S2.

Workers in the 3D Amination Company had to pass the examinations and receive 3 months training, while the supermarkets also recruited workers. Others just followed their work team or waited for the reallocation decided by the Human Resource Department of S1 to work in different sub companies and projects. Even with this small number of workers and many projects, it was still difficult to reallocate workers based on their own willingness.

"There are all difficulties, and all are unwilling to go……People in state-owned enterprises all think if they can sit down to work then they will never stand to work. But it is not up to them……It is impossible to use the form of filling volunteers (Zhi Yuan). It is definitely unrealistic! Unless you have many projects, you can ask them to pick. But if you ask them to pick, no one wants to work underground……. how unsafe it is! Four stones with one piece of meat (human)" (SM03)!

S2 also tried to develop its own projects, but this plan was rejected by S Corporate Group, because the government would not allow an SOE to have too many vertical sub companies (SM15). Therefore, most of S2 workers were reallocated to other coal mines outside the based city by the Human Resource Department of S Corporate Group, according to the needs of other coal mines.

"The main reason is that there are no good industries for development. They also asked you to find jobs by yourselves and always say transition, but most people cannot transit to other industries by themselves. Therefore, they are finally reallocated in other sub companies and coal mines like the biggest coal mines outside the based city" (SW19).

When we asked if they could fill volunteers (Zhi Yuan), the workers left behind replied that this was basically impossible:

"No, it is not so humanized! The volunteer is 'I am willing to retire earlier' (others all laugh). You can do this. It is impossible that you can choose where you want to go" (SW20)

Only the last several batches of technicians were asked for their opinions, because they have higher wages. But they could only choose among five companies all located outside the based city, because the local coal mines had already been filled (SM22). The reason was very utilitarian and, according to some, also out of concern for social stability.

"They are technicians and have knowledge. They may complain online. Others have no ability, so nothing need to worry. They just go where they are reallocated" (SM16).

One important difference between Anhui and Shanxi is that many workers in Shanxi moved to other mines by themselves. This had been stopped before and was allowed again in these closed coal mines recently, but managers could only move when there is a vacant position (SM22).

"As long as the Danwei is willing to accept you, you can move. You have to ask the leader to sign their names. If they signed it, then we can do it" (SM22).

This may better satisfy workers' wishes but also causes inequality.

"Few people have connections. If you are an ordinary worker, you just follow the crowd. You have to go wherever they reallocate you. If your father or your uncle is a leader in another coal mine, you of course can move" (SM16).

There were no big differences between different groups of workers during the

reallocation process, because rural contracted labours mainly work underground, so they are the most needed workers for coal mines (SM16, SM22).

If workers are unsatisfied with the reallocation, they can ask the Human Resource Department to adjust or wait for further reallocation (SM03, SM22). But it is very difficult to move in SOEs.

"Someone was reallocated in another coal mine in north of Shanxi …… however, it was not like what he expected after he arrived there. It was very far and unfree. He could only go back home once a month. The wage was also not very high. He was not satisfied, but he had no choice. He definitely wanted to move back, but how many leaders he had to ask to sign the names! Even with these signatures, it is still uncertain if he can move back because there is no position" (SM16).

5.2.2 Distributive Justice

As discussed before, most of the workers both in S1 and S2 have been reemployed in other coal mines. Their new positions did not change much, except for the workers in S1 who were transferred to work in the 3D Amination Company and Supermarkets. Although S1 is regarded as the model of transition, some sub companies and projects are mainly supported by S Corporate Group and are not been profitable.

"To be honest, our supermarkets are not profitable. It is entirely supported by the mining bureau (S Corporate Group) … the Railway Maintenance Company can't eat meal. The Truck Team is now shrinking. After one or two licenses have been completed, one coal mine can be converted from an infrastructure mine to a production mine. The coal quality there is very good, thus the situation can improve. The other coal mine is suspended" (SM04).

Therefore, the positions in these sub companies and projects seem unstable. It is even true in 3D Animation Company, where the workers have to work overtime and take examinations every year.

"Our work is very eye-consuming, and you have to sit down there for a whole day. When you are older, the reaction is not as sensitive as young people and the brain is

also a little blunt. Even though you can still do it, the efficiency must not be high anymore. People over 40 years old can totally not compete with the people over 20 years" (SW07).

Workers at the local coal mines or projects have no big difference on wages, except the profitable projects like 3D Amination Company and Installation Company. They have a little bit higher wages, but it still depends on what positions you want to compare with. For example, the wages of workers in the 3D animation company are around 4000, which is the same for second line workers (SW06) but higher for workers from other ground departments or logistics (1000-2000) (SW07, SW08). Comparing with all these projects, 3D Amination Company seems the best one.

"As long as you are reallocated to coal mines, then there is all work. In supermarkets, I think it's not as good as ours. They work a lot there, but the wages are not very well. Workers in Installation Company have to travel everywhere because they have no fixed point……it is inconvenient to go back home" (SM06).

For S2, second line workers and managers left behind or reemployed in local sub companies got relatively lower wages. The wages of managers averagely were reduced by 30% (SM25). The frontline workers who were reemployed in other big coal mines outside the based city usually got higher wages. However, these coal mines are located far away in rural mountainous areas, which was very far and inconvenient to reach. For example, when we planned to visit the biggest coal mine of S in another city, the snow closed the road to the mountain and stopped us from getting there. Therefore, the workers can only go back home once a month and their families were left behind.

"The closure made our family members scattered in different area in Shanxi, while the whole family was here before. The furthest coal mine is around 200 kilometers from here" (SW20).

When we asked workers if they are satisfied with the reallocation, all said that they are satisfied and gave over 7 scores out of 10. Workers in 3D Amination Company more positively agree with this.

"I think it 's okay, because they did not say you just wait at home and have nothing

to do. Whatever good or bad, they reallocated you rather than ask you to leave with minimum wages (early retirement)" (SM06)

Others, especially in S2, more passively agree with this because they cannot find jobs by themselves.

"Unsatisfied? Is the Mining Bureau (S Corporate Group) is running by your family? You cannot be unsatisfied. Even though you are unsatisfied because you have no choice" (SM16).

This judgement is also concluded from a perspective of comparison with others.

"The reallocation is all the same. Our coal mine (S1) is even better. We at least reallocated everyone, and we have two other new coal mines. S2 has nothing after closing the mine. Some workers still stay at home with minimum wages" (SW10).

Compared with private company, staying at SOE seems much better.

"How could you have opinions in SOE? Working anywhere is not as good as in SOEs. The welfare is good although the salary is not high. They pay you five insurances and the housing provident funding. If you go to other places or private companies, there is no such treatment" (SM28)

5.2.3 Restorative Justice

Like in Anhui, most workers agreed that the environment is remarkably better especially near the coal mine.

"In the past, the coal dust was relatively heavy, even in the living area. Now it is much cleaner. Especially during this summer, it is very impressive that we can see the blue skies because the production stopped in July" (SW29)

However, it has less impact on the big environment because the air pollution in the based city was still very serious during the winter.

"Close it or not has no relationship with air quality……after it was closed, it was still red warning, red warning (heavy air pollution red warning)" (SM20).

Interviewees said the based city had closed nearly all the polluting factories, thus the air pollutant may come from the neighbouring cities, where lots of coal mines and

factories remained open (SM04).

For the working environment, the local coal mines are still very dirty and old since they are TVMs and small coal mines before, and others are located in mountains. One coal mine that is outside the based city and we have visited appeared relatively better, but we are not sure if others would also be better. Generally, the environment of new coal mines are better because the environmental standards are higher and stricter. The most remarkable change of the working environment happened on the workers who worked underground before and now work in 3D Amination Company, and the job is also regarded as decent.

"It is definitely better than underground. The air and environment underground are worse. It is more comfortable to live here for a human. Staying underground felt very oppressive, while you go outside, you have no time. You just work, eat, and sleep, then work again and have no time for yourselves" (SW06).

Like Anhui A Corporate Group, S also transferred its social function to the local governments. We did not hear any ecological restorations in the based city of S. Also, the coal mines were all located in the mountains in Shanxi, which may make it difficult to develop other industries. The based city also planned to develop tourism based on its rich historical and cultural heritage, but it has not been successful in doing so until now. Also, another resource-based city has developed indoor swimming pool and competed with the based city of S. It also planned to develop home caring industry for aged people, which is also the idea of S1, but had not started yet.

5.3 Comparison and Summary

For procedural justice, the decision about de-capacity both in Anhui and Shanxi were made by leaders of the groups. The workers had no idea about the decision-making process and thus more likely to doubt the decisions made. The decisions about reallocation were also made by the Human Resource Department of group level, except for S1, which had developed its own sub companies and groups, because it had more time to carry out its transition. Thus, giving enterprises enough time is very important,

this can give them more autonomy for transition and give workers more time to fit in.

"We are over 50 years old, but you reallocate us to the far rural areas. Who wants to leave home while the wife and kids are all here……this (transition) cannot be achieved during one night. This (the closure) is so sudden that we cannot stand it. Could you do it gradually?" (SW29)

One important difference is that S allowed workers to move by themselves, while A nearly did not allow workers to pick. Both the leaders of Human Resource Department think reallocation based on workers willingness is unrealistic. But the leader of A think they can take workers' willingness into the consideration in the future and they actually have implemented it for the last several batches.

For the distributive justice, most of the frontline workers were reallocated in the same positions both in Anhui and Shanxi, because there is always a shortage of these positions in coal mines. Employees in second line and offices were more difficult to reallocate and had to take different positions. It seems that workers in Anhui experienced more changes of positions than Shanxi. We have heard someone move from ground to underground in Anhui, but we did not hear this in Shanxi. Furthermore, the change of wages depended on the companies and positions that the workers were reallocated to. Generally, new coal mines, which are also far away from the living districts, have higher wages for the same positions while old coal mines, closer to the living area, have lower wages. The frontline positions have higher wages, while second line and third line have lower wages.

Nonetheless, whatever complaints they have, the workers were still very hesitant and cautious to say they are not satisfied or give lower satisfaction scores. As mentioned earlier, this may be induced by the context in which we did the interviews. However, the workers also explained their judgement because they considered that they are not the worst-off people, compared with other workers in SOEs or private companies. Also, they estimated that they would not be able to find jobs in the market, which made them grateful to the SOE for maintaining their employment.

"I will give 10 points. They (the Human Resource Department) are also struggling.

If we are now going to the society, no place needs us. But they (SOE) still give us a bowl of rice, so I am very satisfied" (SM18).

For the earlier retirement, both A and S offered low wages. A gave 1500 to ordinary workers, and managers were required to retired earlier mandatorily. S only provided 80% of the minimum living standard of the based city and subsequently increased it to 100% (1380 RMB). When we asked what could be improved for reallocation, both the leaders of Human Resource Department of A and S1 mentioned that the wages for earlier retirement was too low.

Finally, for the restorative justice, while the environment improved remarkably nearby the coal mine, these benefits appeared limited and have less impact on the environment in the city. The environment in Shanxi was worse than Anhui, since the air quality was still poor. Moreover, the workers have not enjoyed the improvements because they have been mainly reallocated in coal mines, even though new coal mines usually have better working environment since environmental standards are higher. The SOEs have too many social functions before and thus experienced losses for long term. They played a role like governments and even have to deal with petitions.

"If they came, you have to appease them. Smile on your face, hot tea provided, and say something good. As long as it does not violate the principals, satisfy them like houses and money……The crying child has milk" (SM04).

Now, they have to transfer all of these to the local government, which can also release the burden of SOEs. The ecological restoration is mainly conducted by the local government in Anhui, while the S still controlled the coal mining area and rent the places to its own sub companies. The continuous industries are usually tourism, but they have not been successful in both A and S until now. The burden of transition of cities is mainly imposed on the local government.

6. *Discussion and Conclusion*

Based on the results descripted above, this study finds that the transition in China

can be best described as mostly passive, and only partially just. The reallocation process exhibited patterns combining paternalistic and collective values. It solved the reemployment issue in short-term, but the long-term environmental benefits and economic costs still take time.

6.1 Passive Transition and Social Responsibility of SOEs

The coal sector in China already experienced difficulties since 2012. Many state mines lost money and could not pay wages. Thus, they allowed workers to take off and find jobs outside temporarily. This situation contains a deep crisis. The mass incidents that happened in Heilongjiang in 2016 is just one instance of social unrest, which broke earlier, according to the leader of Human Resource Department in A Corporate Group. In April, just after the issue of de-capacity policy, workers in Heilongjiang LongMay Group protested because the governor Hao Lu said SOEs in Heilongjiang didn't default workers' wages in the two sessions (*Liang Hui*). The de-capacity policy issued by State Council just pushed these nearly died state coal mines (Jiang Shi Qi Ye) into the hell in advance and saved the workers with safe net. This shows that the transition has been forced by the state rather than SOEs' voluntary behaviors.

Moreover, the framing of de-capacity never mentioned environmental reasons, but only mentioned economic reasons like declined corporate profits and increased safety risks, although it is in accordance with the long-term environmental goals like controlling air pollution and reducing emission. Except for S2, when SOEs decided to close certain coal mines, they also only considered mostly the losses and security risks. Workers also mainly talked about these two reasons, although a few of them also mentioned air pollution and energy strategy (import energy from other countries rather than use China's own energy). This framing made de-capacity look like a short time strategy to reverse economic losses, which hinds the necessity of long-time transition. When the price of coal goes up again, the continuation of de-capacity policy for climate reasons will face doubt and barriers. For example, some workers complained about the fact that some coal mines which could still make profits in the late of 13th Five Year

Plan Period were still closed. Managers also thought de-capacity was over and that no new round of de-capacity would come, at least in the short term.

As the extension of government, SOEs have to take responsibility to reallocate workers and avoid mass incidents, which would damage the career of the leaders. Therefore, the goal of reallocation has been mainly to prevent the worse situation, rather than pursuing the highest goal of a just transition. Reallocating so many layoffs within a short time period, SOEs could only resort to early retirement and reemployment within the group. Without new non-coal industries, the underground workers are relatively easier to reallocate since less and less young people are willing to work in dirty, risky and tough coal mines. Whereas the ancillary underground workers and surface employees are relatively more difficult to reemploy because other coal mines and plants don't lack these kinds of workers. However, the SOEs still have to create positions to reallocate and feed them. Even though it may cause redundancy of employees and lower wages, at least they have a job and can survive and thus maintain the conditions necessary to ensure social stability. Therefore, most of layoffs still work in coal mines or coal related industries. For this reason as well, whether this situation can be regarded as sustainable and called a transition is questionable.

In fact, both A and S have invested in renewable energy, for example, A invested in solar power under the policy of photovoltaic poverty alleviation in the based city, while S developed an electric car rental service. However, the interviewees in A admitted that their company is not specialized in these fields, and thus they have not had a big success. The large scale solar panels farm built by A has been suspended for a long time, for unclear reasons (AM15). Meanwhile, the electric vehicle rental service invested by S is only limited to the based city, which is very small and has less needs for this kind of service. Therefore, although some scholars argue that it is possible to transit from fossil fuel to renewable energy and create green jobs to solve the employment issue, the experience of A and S shows that it is much more difficult in the reality. Even though it can be achieved, the winners and losers are not necessarily the same group of enterprises and people. To sweep away the barriers like vested interests in fossil fuel

industries and achieve just transition, the key is to provide incentive to encourage the enterprises in fossil fuel industry to transit to renewable energy. In this way, the losers and winners of the transition can be the same group of enterprises and people.

In short, the state-dominated campaign, economic reasons framing, social function of SOEs, and disadvantages of fossil fuel enterprises on transition to renewable energy determined that the two Chinese SOEs would only transit passively and temporarily. While S1is an exception, which was forced by resource depletion. It transited to be a company, invested in different industries, and also reallocate its own workers locally, although still mainly on coal mines.

6.2 Paternalistic Reallocation and Collectivism

The reallocation in SOEs is paternalistic and supported by the value of collectivism. Although state coal mines have been reformed into modern corporations, this reform is not thorough, and they still have many social functions. They are the epitome of planned economy in China and work like a big family. For example, each coal mine or plant has to submit the profits to the group, and then the group will redistribute the profits to each coal mine or plant. The SOEs are almost responsible for everything like housing, education, health caring, social insurance etc. of their workers. The jobs of workers' children can also be reallocated by S before 2014 as we know. The enterprises also intentionally perpetuate this culture of family. Workers in A mentioned that managers tell them to regard the big group as their own family and they are still the family members whatever coal mine you are reallocated (AM23). Many workers compared SOEs as parents who are responsible to redistribute profits, determine wages, and ensure that every company and employee can survive.

To some extent, workers in SOEs are actually the vested interests of this planned economy system, even though they are reallocated in further area and have lower wages during the de-capacity. At least, they can still stay at the SOEs and work in a similar position, which is nearly impossible in private enterprise. The unequal power structure between enterprises and labors makes them cannot find jobs by themselves locally.

Thus, they are easy to satisfy with the existing situation. Keeping the identity as SOE employees and stable jobs dwarf other sacrifices.

However, enjoying this paternalistic management of SOEs has a price. SOEs provide stable lives for them, thus the workers have to obey to the collective and even sacrifice themselves like an army when it is necessary. For example, the leader of Human Resource Department of A4 said he had to sacrifice himself to response the state policy (AM08). The truck team of S1, which indeed an army before but now regarded as a burden by S1, had voluntarily participated in rescuing tasks of Wenchuan earthquake and permeable incidents without any payments. Therefore, when we asked how they think about the relationship between economy and environment, most of them said they support the state's environmental goals and policy, although they have to sacrifice a little (AM08, SM24). This result is also consistent with another research about layoffs caused by environmental policy in Hebei. The workers and local communities in Hebei even have no reallocation because nearly all factories were closed for control the air pollution in Jing-Jin-Ji, but they still supported the environmental policies. However, it may also be because of the propaganda of ecological civilization. Some employees even didn't realize they were making sacrifices for this goal. They think closing coal mines was more for economic reasons. Therefore, they just repeated what the central government say about the necessity of building an ecological civilization. Among all these reasons, the high reemployment rate within enterprises are the most important reason, because workers are not always willing to sacrifice themselves. They can be unsatisfied like the unrest in LongMay.

In a word, due to this paternalistic and collective values, the workers just passively wait and comply with the reallocation decision and support the state policies even though wages are lower, and the workplaces are further away.

6.3 Limited Environmental Benefits and Unsolved Economic Impact on Communities

Restorative justice has not been fully achieved because workers were moved to other coal mines or coal related plants. Only the working environments was relatively better in the newer coal mines because of higher environmental standards. The ecological restoration efforts was mainly transferred to the local government. However, without transition of the local big SOEs, it has been hard for local governments to transit to low carbon economy. Therefore, the agency of transition should be SOEs rather than local governments.

In addition, the fieldwork revealed that most of restaurants and stores near the closed coal mines were closed. It was even difficult to find a place to eat lunch, and we had to take bus to go back the urban area at night. According to casual dialog with the local people, most of them have had to immigrate to other cities to find jobs. Therefore, the indirect layoffs, like people who do small business depending on coal mines also deserve attention, although they are used to this market shock and have low expectations. This may create new 'empty nest' elderly and left-behind children. The local government should play an important role here since the reallocation of employees has already been imposed on SOEs' shoulders. However, our interviews with local government officials show that what they could do is very limited. They have provided training but these training are not suitable for the market and the layoffs can still not find a job locally. The key to solve this problem is developing other industries after closing coal mines in the coal mining area either by prefectural government and prefectural SOEs like Anhui or by state coal mines' transition like S1 in Shanxi.

There is no perfect just transition but only transition approaching justice as much as possible. Although comparing with other states, Chinese SOEs have assumed all the responsibility and achieved amazingly high reemployment rates, there are still many issues deserving attention from policy makers and scholars. Transition to low carbon economy is the long-term strategy, each state has to learn from each other and form its

own conditions. In a word, low carbon economy should be a way to solve the existing problems rather than create more problems, so on one should be left behind!

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