

**State-owned Capital Shareholding and Mutual Fund Responsible Investment:
Evidence from Chinese Fund Management Companies**

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Abstract

This study investigates the relationship between state-owned capital (SOC) shareholding and mutual fund corporate social responsible (CSR) performance in Chinese fund management companies (FMCs). We find that SOC shareholding alone doesn't lead to better CSR performance. Instead, this relationship reversed from significantly negative to significantly positive following the implementation of a government policy that promotes CSR among SOC entities. In addition, retail investors display a certain level of resistance to the CSR undertaking of their investee funds while such resistance is absent in institutional investor-dominated funds. Within the unique contractual fund structure in China, where investors and shareholders are separate interest groups, we show that changes in the CSR preferences of the controlling shareholders of FMCs influence the investment strategies of their affiliated funds. Our study highlights the domineering role of the government as an attitude-forming force through its control of SOC since the attitudes of SOC towards CSR are not intrinsically motivated but rather externally imposed.

Key words: Mutual funds; State-owned capital; Fund management companies; CSR

1.Introduction

Over the past decades, corporate social responsibility (CSR) issues have become crucial considerations in investors' capital allocation processes. This change is also evident in China, where socially responsible investing has undergone significant growth and transformation in recent years. In the asset management industry, Chinese fund managers increasingly incorporate CSR principles into their portfolio decisions. According to the 2023 Social Responsibility Report of the Chinese Asset Management Industry¹, 103 out of 127 (81.1%) surveyed fund management companies (FMCs) have considered CSR issues when making investment decisions. Despite the rapid development of socially responsible investment in China, academic research on the antecedents of this development is rather lagging. What drives mutual funds in China to embrace CSR principles, and what factors may influence the CSR performance of Chinese mutual funds? The answers remain unclear.

The existing literature mainly examines the drivers of mutual funds' adoption of CSR within the US context, where funds are generally structured as corporations or trusts (Wellman & Zhou, 2008). Under this structure, fund investors, as shareholders of FMCs, can wield their power in FMC governance through the board of directors and further influence the policies and strategies of the investee funds. Several studies have shown that mutual funds in the US cater to investors' demands by embracing responsible investment principles (Renneboog et al., 2008; Barker et al., 2022). Unlike US mutual funds, Chinese mutual funds are organised as contractual funds, where fund investors

are merely customers of the FMC (Yu et al., 2015). Consequently, Chinese mutual fund investors have limited power in shaping and governing the investment policies of mutual funds (Tam et al. 2017)². One recent study by He and Kryzanowski (2023) shows that mutual funds in China generally have strong government connections through state-owned capital (SOC)³ shareholdings in the funds' associated FMCs. This political connection significantly influences the asset allocation decisions of portfolio managers for the interests of SOC shareholders. Building on this evidence, we suspect that SOC shareholders may play a crucial role in the CSR adoption of Chinese mutual funds. This study is thus motivated to answer the following questions: To what extent is the CSR performance of Chinese mutual funds related to the SOC ownership in the funds' affiliated FMCs? Does this relationship stay constant over time, or is it subject to changes in the institutional environment, as represented by changes in government CSR policies? What is the role of mutual fund investors in affecting the impact of SOC ownership on fund CSR performance? Answering the above questions can help improve the understanding of the development of socially responsible investment in the Chinese asset management industry.

In this study, we measure SOC ownership using two variables commonly adopted in existing studies (Chizema et al., 2020; He et al., 2023). The first variable, *SOC_control*, is a dummy variable that equals one if the largest shareholder of the FMC is a SOC entity, and zero otherwise. The second variable, *SOC_ownership*, is a ratio representing the percentage of total shares held by all SOC shareholders in the FMC. Using a sample

of 38,684 fund-half-year observations over the period from June 2010 to December 2021, we document a positive yet insignificant influence of SOC shareholdings on fund CSR performance. We also show that this influence experienced a structural change around 2016, coinciding with the issuance of the 2016 Guidelines for State-owned Enterprises on Better Fulfilling Social Responsibilities (the Guiding Opinions) by the SASAC.

To better understand the impact of the institutional environment on SOC's role in promoting CSR adoption, we use the issuance of the Guiding Opinions as an exogenous policy shock and partition our sample period into the pre-policy and post-policy subperiods. The results from the pre-policy sample indicate that SOC ownership constrained mutual fund CSR adoption before the issuance of the Guiding Opinions. However, this influence turned significantly positive during the post-policy period. These results remain robust with alternative dependent and explanatory variables. We have also demonstrated that the results are not driven by improvements in the CSR performance of portfolio stocks.

Our subsequent analysis provides further insights. Although Chinese fund investors play a lesser role in the governance of FMCs, they mediate the relationship between SOC shareholding and mutual fund CSR performance. Retail investors, in particular, exhibit a certain level of resistance to the CSR adoption of their investee funds, while such resistance is absent in institutional-investor-dominated funds.

This study contributes new evidence to several strands of literature. First, a scant amount of literature studies whether SOC ownership influences corporate CSR performance and documents mixed evidence (Xiao & Sheng, 2022; Hsu et al., 2021; Fisman & Wang, 2015, etc.). Our paper demonstrates that the relationship between SOC ownership and CSR performance is not static but evolves with government CSR policies. In this regard, our results are consistent with theories emphasising the role of the institutional environment in encouraging CSR undertakings (Campbell, 2007).

Second, the governance of FMCs has recently gained attention in asset management studies (Chen & Huang, 2011; Chen et al., 2013; Sialm & Tham, 2016; Kryzanowski & Mohebshahedin, 2020). However, most of these studies focus on the relationship between the governance of FMCs and their affiliated funds' financial performance or fee-setting decisions. Our study extends this strand of literature by relating the ownership structure of FMCs to the CSR performance of their affiliated funds. Specifically, within the unique contractual fund structure in China, where investors and shareholders are separate interest groups, we show that changes in the CSR preferences of the controlling shareholders of FMCs influence the investment strategies of their affiliated funds.

Finally, there is a growing body of literature on the greenwashing risk in the asset management industry. Recent evidence shows that US institutional investors who market themselves as socially responsible do not always adhere to the principles and

practices they espouse (Gibson et al., 2022; Raghunandan & Rajgopal, 2022; Kim & Yoon, 2023). Some economic motivations have been identified for these greenwashing behaviours such as higher fund flows and higher fund management fees. Our study shows that, in the Chinese capital markets, FMCs may face pressures from SOC shareholders to enforce CSR considerations among their affiliated funds. As such, our study sheds light on the political motivations for funds pursuing CSR principles. Would funds commit to greenwashing driven by such political motivations? We leave this question open for future studies.

The remaining sections are structured as follows. We introduce relevant literature and develop hypotheses in Section 2. We describe our data and research design in Section 3. The main empirical results are presented in Section 4. We perform further tests and discuss the results in Section 5. Section 6 concludes the paper.

2. Literature review and hypothesis

2.1 Literature on SOC ownership and corporate CSR performance

Traditional wisdom generally agrees that SOC ownership is associated with significant rent-seeking problems (Chen et al., 2011), and SOC shareholders usually pursue goals that depart from value maximization (Borisova et al., 2012; Jiang & Kim, 2020). As a result, private investors in firms with SOC ownership bear the costs of corruption, poor resource allocation, reduced innovation, and skewed wealth distribution (Shleifer, 1998). In the context of CSR performance, the role of SOC is still debated. Hsu et al. (2021) posited that the government uses SOC to deal with social externalities. Following this social view, SOC should have unique objective functions that balance shareholder value maximisation and social welfare maximisation goals (Wei, 2021). Driven by the tendency to promote social objectives, SOC is expected to invest more responsibly, even though their investments may not generate sizable financial returns. Several studies show supporting evidence for this social view where higher SOC ownership is associated with better CSR performance (Li & Zhang, 2010; Lopatta et al., 2017; Hsu et al., 2021; Zhang et al., 2022; Peng et al., 2023).

On the other hand, the state, as the ultimate owner of SOC, does not participate in the SOC's operational management, leaving sufficient opportunities for SOC managers to engage in actions serving their own interests (Jiang & Kim, 2020). As such, the agency view emphasises the role of SOC managers, as agents of capital owners, in pursuing CSR goals that satisfy their own financial and/or non-financial tastes and agendas.

However, the agency view does not assert that SOC ownership is negatively associated with CSR performance. Instead, SOC managers may advocate CSR proactively to build self-reputation, obtain legitimacy, or advance their careers in businesses or governments (Barnea & Rubin, 2010; Kao et al., 2018; Hsu et al., 2021). Such opportunistic CSR engagements deviate from the state's CSR objectives, leading to an indeterminate relationship between SOC ownership and corporate CSR performance. Kao et al. (2018) and Tian, Zhu, and Lu (2023) provide relevant evidence.

2.2 Literature on Chinese FMCs

The governance structure of FMCs does not simply mirror that of ordinary corporations, as they face unique conflict-of-interest problems between fund managers and fund investors (Del Guercio et al., 2018). Compared with the corporate fund structure in the US, where investors are also the shareholders of FMCs, Chinese mutual funds are organised as contractual funds. Investors' investments are in the form of purchase transactions, so they are merely the customers of the FMCs. Consequently, Chinese FMC shareholders are a separate group from fund investors, and the board of directors is appointed by the shareholders, especially the controlling shareholders (Tam et al., 2019), resulting in the absence of direct representation for fund investors in the Chinese FMC governance. The shareholders of Chinese FMCs may include brokerage firms, banks, or other public and private entities (Gong et al., 2016). Within this unique organisational setting, large shareholders are found to be influential in their affiliated funds' decision-making processes. This tendency strengthens with the controlling

interest held by the largest shareholder (Gong et al., 2016).

The strong presence of SOC ownership in FMCs also features the Chinese asset management industry. As reported by Yu et al. (2015), the majority of Chinese FMCs have significant SOC ownership, with an average SOC shareholding above 50%. As highlighted by Sun and Tong (2003), the amount of SOC ownership within the Chinese corporate sector is less driven by corporate financial performance. Instead, it is more likely to be influenced by a combination of institutional factors, including government policy, political ideology, and the share allocation quota system. Considering all the above-mentioned reasons, it is viable to believe that SOC wields significant influence in the governance of Chinese FMCs, with the recent study of He and Kryzanowski (2023) providing relevant evidence.

Notably, most studies in this area focus on the relationship between FMCs' governance and their affiliated funds' financial performance or fee-setting decisions. Our study extends this strand of literature by relating FMCs' ownership structures to the CSR performance of their affiliated funds.

2.3 Hypothesis

The mixed evidence on the relationship between SOC ownership and corporate CSR performance can be related to the following two issues. First, in developing economies, changes and developments in the CSR landscape are driven top-down at the state level,

guided by policies established by the central government (Cordeiro et al., 2017; Jiang & Kim, 2020). As a result, the awareness and commitment of SOC towards CSR are expected to align with the government's, giving rise to an evolving relationship between SOC ownership and CSR performance. Second, the effectiveness of government CSR initiatives through SOC is influenced by SOC managers' ability to implement CSR and their personal interests in promoting CSR principles. Without proper monitoring and incentives, the opportunistic behaviour of agents and the conflicts of interest between SOC owners and SOC managers will distort the relationship between SOC ownership and CSR performance (Filatotchev & Nakajima, 2014). In this regard, the enforcement of targeted CSR policies and regulations may help achieve better CSR outcomes by directing and regulating the actions of SOC managers.

The involvement of SOC as block shareholders in the governance of Chinese FMCs has been shown to influence the effectiveness of the board and the performance of the affiliated funds (Tam et al., 2019; He et al., 2023). Given that the development of CSR in China is primarily led by the state government (Gond et al., 2011; Hofman et al., 2017), we expect that SOC shareholders in FMCs serve as a promoting force for mutual funds' CSR adoption. However, their influence is subject to changes in the institutional environment, represented by the evolution of government CSR policies.

As the key regulatory body of SOC, the SASAC has taken initiatives to formulate and implement policies to promote CSR among SOC entities. In June 2016, the SASAC

issued the *Guiding Opinions for State-owned Enterprises on Better Fulfilling Social Responsibilities*, which was enforced among all SOC entities under the control of both the central government and the provincial governments. Given its broader inclusion of regulated SOC entities and its more focused objectives to address specific CSR implementation issues⁴, we expect this policy to have a strong impact on the CSR practices of SOC entities. Driven by enhanced awareness and commitments to CSR, when acting as shareholders of FMCs, SOC entities should become more proactive in implementing CSR principles due to this policy shock. This leads to the following hypothesis:

Hypothesis 1. The CSR performance of mutual funds affiliated with SOC-invested FMCs is positively associated with SOC shareholdings, and this relationship becomes more pronounced after the implementation of the 2016 Guiding Opinions.

3. Data and empirical methodology

3.1 Data and sample

We obtain firm CSR score data from Hexun.com, a leading CSR rating platform of China. Hexun CSR⁵ rating data covers all listed companies in China and reports CSR scores annually. Mutual fund data is provided by the China Stock Market & Accounting Research (CSMAR) Mutual Fund database. This database provides information on FMC shareholder identity, fund returns, total net assets, fees, investment objectives, and other fund characteristics. Our sample consists of active equity and hybrid funds, with a total amount of 38,684 fund-half-year observations. Based on the FMC shareholder information, we manually collect corporate information to identify SOC shareholders. The sample period is from 2010 to 2021. CSR reporting is a very recent phenomenon in China, with the first standalone CSR report of Chinese listed firms published in 2007. To ensure a reasonable number of observations in each year, we set the start of the sample period to 2010.

3.2 Variable construction

3.2.1 State ownership

We construct two variables to measure the extent to which SOC exerts control: *SOC_control* and *SOC_ownership*. For each fund, *SOC_control* is a dummy variable equal to one if the largest shareholder of the fund's affiliated FMC is a SOC entity, or zero otherwise. This variable captures the influence of a single SOC entity as the largest shareholder of the FMC. The second variable, *SOC_ownership*, is a continuous variable

calculated as the percentage of ownership held by all SOC shareholders in the fund's affiliated FMC. We employ this variable to gauge the combined force of SOC shareholders in the FMC.

3.2.2 Fund CSR score

Following El Ghouli & Karoui (2017) and Hwang et al. (2021), we compute the CSR score for each fund at the half-year level based on the fund's semi-annual stock holdings and the portfolio stocks' CSR scores observed at the beginning of each year. The fund CSR score, *Fund CSR*, is calculated as follows:

$$FundCSR_{i,t} = \sum_{j=1}^N \omega_{i,j,t} \times Firm_CSR_{j,T-1} \quad (1)$$

where $\omega_{i,j,t}$ is the weight of stock j in fund i 's portfolio at the end of half-year t ; N is the total number of stocks in fund i 's stock holding at the end of half-year t ; and $Firm_CSR_{j,T-1}$ is the CSR score of stock j in calendar year T that the half-year t belongs to⁶. $FundCSR_{i,t}$ is computed as the weighted average CSR score of the stocks held by fund i . Therefore, a higher $FundCSR_{i,t}$ indicates a better portfolio CSR performance.

3.3 Baseline regression

To examine whether a FMC's SOC ownership influences its affiliated funds' CSR performance, we construct the baseline regression as follows:

$$FundCSR_{i,t} = \beta_0 + \beta_1 \cdot SOC_ownership_{i,t-1} + \phi \cdot Controls_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

where $FundCSR_{i,t}$ is the semi-annual CSR score of fund i at the end of half year t calculated following Equation (1). $SOC_ownership_{i,t-1}$ is the semi-annual SOC ownership observed at the beginning of half year t , proxied by one of the two variables $SOC_control$ and $SOC_ownership$. $Controls_{i,t-1}$ is a vector of lagged semi-annual control variables, which include fund age (*Fund age*), measured as the number of years the fund has existed; fund size (*Fund Size*) calculated as the natural logarithm of fund total net asset under management (TNA); the size of the fund family (*FamilySize*), measured as the natural logarithm of the sum of TNA for all funds managed by the same FMC; expense ratio (*Expense ratio*), calculated by dividing the fund's operating expenses by its TNA; fund flow (*Fund Flow*), determined as the change in TNA adjusted for the growth resulting from the investment return; fund turnover ratio (*Fund turnover*) defined as the minimum of sales or purchases divided by the TNA of the fund and the lagged performance (*Fund return*). Extending the baseline regression, we control for time fixed effects, fund family fixed effects, and investment objective fixed effects, clustering standard errors at the fund level.

4. Results and discussions

4.1 Univariate analysis

We partition the whole sample into two sets of groups. The first set, *SOC_control* and *Non-SOC_control*, is classified by whether the largest block shareholder of the FMC is a SOC entity. In addition, we create another set of groups, *With_SOC_ownership* and *Without_SOC_ownership*, based on the presence or absence of SOC shareholders in the FMC. We report the average values of the regression variables for the two sets of fund groups in Panels A and B of Table 1 respectively. The differences in the average values between the two groups within the same set of groups are reported in Columns (3) of each panel.

[Insert Table 1]

Panel A in Table 1 shows the univariate analysis results for *Non-SOC_control* and *SOC_control* groups. We find that the average CSR score of *SOC_control* is 1.286 points higher than that of *Non-SOC_control*, suggesting that funds managed by the FMCs with a controlling SOC shareholder outperform the counterparties in CSR scores over the sample period. What is more, these funds are older in age, larger in size, and belong to larger fund families. They charge 0.1 percentage point higher fees but deliver an average return around 1.5% lower than funds in the *Non-SOC_control* group. Finally, funds in the *SOC_control* group are associated with a higher average turnover ratio (*Fund Turnover*) and a lower net fund flow (*Fund Flow*) during the sample period.

Panel B in Table 1 presents the results of univariate analysis for the groups of *With_SOC_ownership* and *Without_SOC_ownership*. As indicated by the number of observations in the last row, a larger portion of our sample funds are associated with FMCs with SOC shareholders. For the difference in *FundCSR*, funds managed by FMCs with SOC shareholders, on average, invest more in stocks with higher CSR scores. We also find that funds in the *With_SOC_ownership* group are older in age, larger in size and belong to larger fund families. These funds, on average, charge lower fees, but generate 3.5% lower semi-annual returns than the funds in the group of *Without_SOE_ownership*. Finally, funds in the *With_SOC_ownership* group tend to have a lower average turnover ratio and a lower average net fund flow over the whole sample period.

To summarise, the results in Table 1 show initial evidence for the positive relationship between SOC ownership and their affiliated funds' CSR performance. As the values in Table 1 are highly aggregated, we next investigate the changes in CSR performance in the time series. At the end of each half year from July 2010 to July 2021, we calculate the difference between the average CSR scores for the funds in the *SOC_control* group and the funds in the *Non-SOC_control* group (i.e., $FundCSR_{SOC_control} - FundCSR_{Non-SOC_control}$) and plot the time series of the relative CSR performance using a line chart in Figure 1.

[Insert Figure 1]

The vertical axis of the line chart indicates the difference in the average CSR score, so any values above zero represent the outperformance of the funds in the *SOC_control* group. We observe a highly volatile relative CSR performance before December 2016, with many dramatic rises and falls in the relative CSR score. Moreover, there are four half-years where the value drops below zero (i.e., July 2011, July 2012, July 2014, and December 2016), suggesting that funds in the *SOC_control* group have underperformed those in the *Non-SOC_control* group in CSR. In contrast, the value remains above zero from December 2016 to July 2021. The volatility in the relative CSR performance has visually declined during this period.

These preliminary results suggest a vague relationship between the SOC ownership of FMC and the CSR performance of the FMC's affiliated funds. On average, SOC ownership is associated with a higher CSR score. However, this result could be driven by the relative outperformance of such funds after December 2016. Indeed, the pattern shown in Figure 1 suggests a structural change in the relative CSR performance of the funds associated with a controlling SOC shareholder. In the subsequent sections, we will perform more rigorous tests to uncover the reasons for the change.

4.2 Panel regression results

We regress the CSR score of individual funds on one of the lagged SOC ownership variables, *SOC_control* and *SOC_ownership*, controlling for other fund and firm

characteristics. The regression results based on *SOC_control* as the independent variable are displayed in Columns (1) to (3) in Table 2, and those with *SOC_ownership* as the independent variable are reported in Columns (4) to (6).

[Insert Table 2]

The univariate regression results in Columns (1) and (3) show a positive relationship between SOC ownership and CSR performance in general. The coefficients stay significant at the 1% level after controlling for the fund and firm characteristics, as indicated in Columns (2) and (4) of Table 2. However, upon further controlling for time, fund family and fund investment objective fixed effects, the coefficient on *SOC_control* becomes insignificant, as shown in Column (3). This change suggests that the CSR performance of individual funds is not significantly influenced by the identity of the largest shareholder of the FMC over the whole sample period. This result echoes the observations in Figure 1, where the relative CSR performance of the *SOC_control* funds moves around zero between July 2010 and December 2016. At last, when proxying SOC ownership with *SOC_ownership*, we obtain similar results where the coefficient on *SOC_ownership* becomes insignificant after controlling for the fixed effects.

Based on all available results, we conjecture that the CSR investment policies of FMCs with SOC ownership has experienced a structural change during 2016. We will investigate this further in the next section.

4.3 The effect of the Guiding Opinions

In this section, we use the issuance of the 2016 Guiding Opinions as a policy shock and test the influence of SOC ownership of FMCs on the CSR performance of their affiliated funds.

As the Guiding Opinions was issued in June 2016, we separate our whole sample into two subsamples, the *Pre-policy* sample (June 2010-June 2016) and the *Post-policy* sample (December 2016-December 2021). We test *Hypothesis 1* using the same research design as in Section 3.2 and apply the panel regression based on Equation (2) to the two sub-samples respectively. The results are presented in Table 3.

[Insert Table 3]

Columns (1) and (2) show the regression results for the *Pre-policy* sample. The coefficients on both *SOC_control* ($\beta=-1.919$, $p=0.1$) and *SOC_ownership* ($\beta=-0.072$, $p=0.05$) are significantly negative, controlling for time, fund family and fund investment objective fixed effects. With the absence of Guiding Opinions, SOC ownership serves as a factor constraining the implementation of CSR principles. In contrast, the coefficients on both SOC ownership variables become significantly positive in the regressions conducted on the *Post-policy* sample. As shown in Column (3), during the *Post-policy* period, funds associated with a controlling SOC shareholder earn 0.756 higher CSR scores ($\beta=0.756$, $p=0.1$). Moreover, a one-percentage-point

increase in the SOC shareholding predicts a 0.074-point increase in the CSR score of the associated funds, as indicated by the coefficient on *SOC_ownership* ($\beta=0.074$, $p=0.01$) in Column (4).

The results in this section suggest a structural shift in the CSR commitments of funds associated with SOC ownership. Prior to the issuance of the Guiding Opinions, funds with higher SOC ownership exhibit worse CSR performance. This is consistent with the findings of the previous literature that SOC shareholders are less motivated to engage in CSR activities to build a network with the government and to reduce political risk (Jiang & Kim 2020). However, once the implementation of CSR becomes a mandated mission, FMCs with higher SOC ownership become more inclined to embrace CSR principles, resulting in a positive relationship between SOC ownership and CSR performance. Indeed, our *Post-policy* evidence supports this notion.

4.4 The tracking error of fund performance relative to the CSR index

Up to this point, our analyses have used the CSR score to gauge the level of CSR adoption. However, the results are likely driven by changes in the CSR scores of the underlying stocks rather than by fund managers' investment decisions in favour of stocks with better CSR performance. To alleviate this concern, we construct a measure based on the tracking error of fund portfolio returns relative to the Chinese Corporate Social Responsibility (CCSR) index returns. Following El Ghouli & Karoui (2022), we compute *Fund_STE* as the standard deviation of the difference between the daily returns

of the fund and the daily returns of the CCSR⁷. We perform this calculation on a semi-annual basis and obtain the time series of $Fund_STE$ for each sample fund following the formula below:

$$Fund_CSR_STE_{i,t} = \sqrt{\frac{\sum_{\tau=1}^n (R_{i,\tau} - R_{CCSR,\tau})^2}{n-1}} \quad (3)$$

In Equation (3), $R_{i,\tau}$ is the return of fund i on day τ of the half-year t , and $R_{CCSR,\tau}$ is the return of the CCSR index on the same day. We postulate that as a fund's performance deviates more from the CCSR index (i.e., a higher $Fund_STE$), the fund is potentially less inclined to embrace CSR principles. Therefore, a lower $Fund_STE$ value should indicate that more CSR considerations have been incorporated into the fund's portfolio construction processes. Following the same setting as Equation (2), we regress the semi-annual $Fund_STE$ on $SOC_control$ and $SOC_ownership$ over the *Pre-policy* and *Post-policy* periods, respectively. We report the regression results in Table 4.

[Insert Table 4]

Columns (1) and (2) show the results of regressions conducted over the *Pre-policy* period. The coefficients on both $SOC_control$ and $SOC_ownership$ are significantly positive, suggesting a stronger divergence in the performance of SOC-associated funds relative to the CCSR index. In particular, the coefficient on $SOC_control$ is 0.813. This implies that if a fund is affiliated with a controlling SOC shareholder, the daily tracking

error of the fund relative to the CCSR index will be 0.813% higher than for funds without such an association. As for *SOC_ownership*, its coefficient indicates that a one-percentage-point increase in SOC ownership is associated with a 0.015% increase in its daily tracking error relative to the CCSR index. Both results support our postulation that prior to the issuance of the Guiding Opinions, the returns of portfolios managed by the FMC with higher SOC ownership deviate more from the CCSR index.

The regression results in Columns (3) and (4) for the *Post-policy* period are particularly interesting. The signs for coefficients on both *SOC_control* and *SOC_ownership* become negative, and the values are highly significant with t-statistics below negative eight. As indicated by the coefficient on *SOC_control* in Column (3), funds associated with a controlling SOC shareholder tend to have a lower *Fund_STE* (around 1.144%) compared to funds without such connections. Moreover, the coefficient on *SOC_ownership* indicates a 0.041% reduction in *Fund_STE* with a one-percentage-point increase in the shareholding of SOC shareholders.

Taken together, the results in Tables 3 and 4 provide strong evidence that funds managed by FMCs with SOC ownership have undergone a structural change in their commitments to CSR principles. The adoption of CSR principles by SOC-associated funds is not evident during the *Pre-policy* period. However, during the *Post-policy* period, we find that funds affiliated with SOC ownership display a stronger tendency to embrace CSR principles. Furthermore, this tendency is more pronounced in funds

with higher SOC ownership. Finally, during the *Post-policy* period, SOC-affiliated funds align their portfolio performance more closely with the performance of the CCSR index, resulting in a lower *Fund _STE* and an enhanced CSR performance over time.

5. Further analyses

5.1 Robustness tests: Alternative dependent and independent variables

In this section, we perform two types of robustness checks. First, we replace the independent variable with an alternative variable that measures the CSR performance of each fund's top 10 holdings. Second, we replace the SOC ownership variables with alternative measures, and we discuss the exact methodologies below.

The results documented so far could be driven by the overall improvement in the CSR performance of the market if SOC-connected funds are more likely to be passive indexers. To address this concern, we replace the independent variable in Equation (2) with the value-weighted average CSR score of the top 10 holdings of each fund. Our rationale is that, compared with the lower-weighted constituent stocks, the top 10 stocks usually attract more attention from fund managers in their decision-making processes. If the policy shock has changed SOC's commitments to CSR and the SOC shareholders further exert their affiliated funds to incorporate CSR investing principles, we should observe a significant positive relation between the SOC-ownership variables and the CSR scores of the top 10 holdings of the portfolio only in the *Post-policy* period. We repeat the panel regression using the new dependent variable over the *Pre-policy* and *Post-policy* periods. Results are reported in Columns (1) to (4) in Table 5.

[Insert Table 5]

The regression results strongly support our proposition. Regressions conducted on the *Pre-policy* sample generate significantly negative coefficients on the two SOC-ownership variables, as shown in Columns (1) and (2). In contrast, the coefficients on both *SOC_control* and *SOC_ownership* become significantly positive during the *Post-policy* period, as shown in Columns (3) and (4).

In the second robustness check, we use two new dummy variables to replace *SOC_control* and *SOC_ownership* and rerun the panel regression based on Equation (2). The first dummy variable, *Absolute_SOC_control*, is equal to one if the largest shareholder of the FMC is an SOC investor with a shareholding of more than 50%, or otherwise zero. The second dummy variable, *SOC_ownership_dummy*, is set to one if the FMC has at least one SOC shareholder. Otherwise, it equals zero. We rerun the baseline regression using the two new SOC-ownership variables and report the results in Columns (5) to (8). Consistent with the previous findings, we observe that the coefficients on the two new dummy variables change from significantly negative (Columns (5) and (6)) to significantly positive (Columns (7) and (8)) following the implementation of the Guiding Opinions.

5.2 Endogeneity

Our results may suffer from an endogeneity problem, as there are state-owned enterprises (SOEs) in mutual funds' portfolios. These SOEs could be motivated to improve their CSR performance due to the Guiding Opinions. As such, the changing

impact of SOC-ownership on fund CSR performance could also be driven by the enhancement of portfolio firms' commitments to CSR rather than by the changes in fund managers' investment strategies. To address this concern, we recalculate the portfolio CSR score following Equation (1) but exclude SOE samples. By doing so, we test the relationship between SOC-ownership and the CSR performance of portfolios consisting of non-SOEs only. We name this new dependent variable *Non_SOE_CSR*. Table 6 report the regression results.

[Insert Table 6]

The results in Column (1) and Column (2) of Table 6 show that the influence of FMCs' state ownership on portfolio CSR performance remains vague over the whole sample period. During the *Pre-policy* period (Columns (3) and (4)), both *SOC_control* and *SOC_ownership* are negatively related to *Non_SOE_CSR*. However, the coefficients on both SOC-ownership variables become significantly positive during the *Post-policy* period, as indicated in Columns (5) and (6). These results align closely with those documented in Section 4.3, suggesting that over the *Post-policy* period, SOC-ownership predicts better CSR performance even for portfolios constituted entirely of non-SOE stocks.

5.3 Mechanics

5.3.1 Fund trading decisions in response to firm CSR performance

In this section, we investigate the lead-lag relationship between prior stock CSR performance and the subsequent portfolio decisions to demonstrate that funds associated with SOC ownership become more inclined to integrate CSR considerations into their portfolio decisions following the implementation of the Guiding Opinions. We construct two variables to capture the changes in the aggregated investments in an individual stock by all funds sharing a common degree of SOC ownership. At the beginning of each year, for all funds managed by any FMCs whose largest shareholder as SOC entities, we aggregate their holdings of each stock and track the changes in the aggregate holding of this stock over the subsequent year. We define it as *SOC_control_Trade*. Specially:

$$SOC_control_Trade_{j,T} = \Delta w_{j,T} = w_{j,T} - w_{j,T-1} \quad (4)$$

where $w_{j,T}$ is the weight of stock j in the aggregate holdings of all funds associated with a controlling SOC shareholder. Applying the same method to funds managed by any FMCs with at least one SOC shareholder, we obtain another variable, *SOC_ownership_Trade*.

Because company CSR performance is reported around February each year, the trading represented by *SOC_control_Trade_{j,T}* and *SOC_ownership_Trade_{j,T}* are fully informed of the prior stock-level CSR performance. If funds associated with SOC shareholders are motivated to adopt CSR considerations, we expect a positive relationship between the

stock's CSR score and the aggregated fund trading on the stock. Our regressions in this section are based on the following specifications:

$$SOC_Trad_{j,T} = \beta_0 + \beta_1 \cdot Firm_CSR_{j,T-1} + \phi \cdot Controls_{j,T-1} + \varepsilon_{j,T} \quad (5)$$

where $Firm_CSR_{j,T-1}$ is the CSR score of stock j reported at the end of year $T-1$; $Controls_{j,T-1}$ is a vector of lagged control variables including the buy-and-hold return (BHR), firm size ($Size$), leverage (Lev), return on total assets (ROA), and institutional ownership (IO). All independent variables are firm-specific characteristics as recorded at the end of year $T-1$. The results for regressions using $SOC_control_Trad_{j,T}$ as the dependent variable are reported in the left panel of Table 7, and those of regressions using $SOC_ownership_Trad_{j,T}$ as the independent variable are reported in the right panel of Table 7.

[Insert Table 7]

We find that firm CSR performance is significantly and positively related to SOC-associated funds' trading decisions over the sample period. For instance, the coefficient on $Firm_CSR_{j,T-1}$ is 0.0003, meaning that a one-point increase in the CSR score of a company is accompanied by a 0.03% increase in the holding of the company by all funds associated with a controlling SOC shareholder. Further, breaking down the sample period into *Pre-policy* and *Post-policy* periods brings new insights. As presented

in Column (2), during the *Pre-policy* period, funds backed by a controlling SOC shareholder do not trade in response to the changes in the CSR performance of individual companies, as the coefficient on $Firm_CSR_{j,T-1}$ is insignificant. However, this relationship becomes significantly positive during the *Post-policy* period, evidenced by the significantly positive coefficient on $Firm_CSR_{j,T-1}$.

Results of regressions using $SOC_ownership_Trad_{j,T}$ as the dependent variable are consistent with those in the left panel. The positive relation between $Firm_CSR_{j,T-1}$ and $SOC_ownership_Trad_{j,T}$ only exists during the *Post-policy* period, which further drives this relationship over the whole sample period to be significantly positive.

5.3.2 Reverse causality: lagged fund CSR performance and subsequent SOC ownership

The mechanics documented in the previous section may suffer from a reverse causality problem where SOC entities increase shareholdings in FMCs with higher prior CSR scores. To examine this potential reverse causality, we follow Harjoto et al. (2017) by regressing $SOC_ownership$ on the lagged average CSR score of FMCs. Specifically, FMC_MCSR is the equally weighted average of CSR scores of an FMC's affiliated funds, and FMC_WCSR represents the value-weighted average of CSR scores of an FMC's affiliated funds. In all regressions, we control for FMC-specific characteristics such as age, size, fee, and prior return. Furthermore, we control for time fixed effects, and fund family fixed effects in all regressions. The results are reported in Table 8.

[Insert Table 8]

We find that lagged FMC average CSR scores do not affect SOC shareholdings in the subsequent period. The coefficients on both *FMC_MCSR* and *FMC_WCSR* are negative and insignificant during the whole period as well as the *Pre-policy* and *Post-policy* periods. Therefore, it is unlikely that our results in Table 3 and Table 7 are driven by reverse causality.

Our tests in Section 5.3 demonstrate that, following the implementation of the Guiding Opinions, funds associated with SOC ownership increase their holding of companies with higher CSR scores⁸. This tendency is not statistically significant before the issuance of the Guiding Opinions.

5.4 State ownership, investor structure and fund CSR performance

The performance of mutual funds in China can be substantially influenced by the governance of their FMCs (He et al., 2023). Being under-represented on the board of FMCs, mutual fund investors in China have only the recourse to “vote with feet” by redeeming their fund shares (Gong et al., 2016). Due to the low level of CSR penetration in the Chinese capital markets, most retail investors in China are still highly return-driven. As such, if the pursuit of CSR goals by SOC shareholders does not yield sensible financial returns, the retail investors of SOC-backed funds will likely redeem

their investments. This will serve as a constraining force on the CSR undertakings of mutual funds. By contrast, institutional investors in China are mainly SOC entities (Lin & Puchniak, 2022). They hold similar social objectives or are tasked with similar social responsibilities as the SOC shareholders of FMCs. Therefore, the conflict of interest between SOC shareholders and fund investors regarding CSR undertakings should be less dramatic if the funds are held mainly by institutional investors. For these reasons, we expect the relationship between SOC ownership and fund CSR performance to be more pronounced in institutional-investor-dominated funds. To test this conjecture, we divide our sample into institutional-investor-dominated funds (institutional funds) and retail-investor-dominated funds (retail funds) based on the identity of the dominant investor group. We repeat the panel regression defined by Equation (2) for the two samples over the entire sample period, as well as for the *Pre-policy* period and the *Post-policy* period, respectively. We report the results for institutional funds in Panel A of Table 8 and those for retail funds in Panel B of Table 9.

[Insert Table 9]

Columns (1) and (2) in Panel A show that the coefficients on both SOC ownership variables are significantly positive for institutional funds over the entire sample period. In contrast, the coefficients on the SOC ownership variables are both insignificant for retail funds, as shown in Columns (1) and (2) in Panel B of Table 9.

Moving to the regressions conducted over the subperiods, we find that for institutional funds, SOC ownership and fund CSR performance are not significantly associated during the *Pre-policy* period, as shown in Panel A, Columns (3) and (4). However, as indicated in Columns (5) and (6) of Panel A, this relationship becomes significantly positive during the *Post-policy* period.

Retail investors are more likely to play a constraining role in CSR adoption than institutional investors. As shown in Columns (3) and (4) of Panel B, the relationship between SOC ownership and fund CSR performance is significantly negative during the *Pre-policy* period. However, this relationship becomes positive but statistically insignificant during the *Post-policy* period (Column (5), Panel B). This indicates that for retail funds, a single SOC shareholder may not have enough power to enforce CSR principles among their affiliated funds. However, the combined force of all SOC shareholders in promoting CSR is evident. As shown in Column (6), with a one-percentage-point increase in SOC ownership, the CSR score tends to increase by 0.088%. This relationship is significant at the 1% level.

In summary, the results documented in this section support our conjecture. The effectiveness of SOC shareholders in promoting CSR principles among their affiliated funds is influenced by the dominant investor group of those funds. We find evidence that retail investors exhibit resistance to the CSR undertakings of their investee funds, whereas such resistance is absent in institutional investor-dominated funds.

6. Conclusions

In this study, we investigate the relationship between SOC shareholding and mutual fund CSR performance within Chinese FMCs. Using the issuance of the Guiding Opinions in 2016 as a policy shock, we perform various tests to demonstrate the critical role of the institutional environment in shaping the attitude of SOC towards CSR undertakings.

Our most important finding is that SOC participation alone does not lead to better fund CSR performance in China. Instead, it serves as the channel for government CSR policies to influence mutual funds' capital allocation decisions. Using two SOC-ownership variables as proxies, we demonstrate that the relationship between FMCs' SOC ownership and fund CSR performance changes from significantly negative to significantly positive following the implementation of the Guiding Opinions. This result remains robust with a battery of alternative dependent and/or explanatory variables and after controlling for the endogeneity issues. We further show that SOC-affiliated funds actively increase their holdings of companies with better CSR performance following the implementation of the Guiding Opinions.

Apart from the main finding, we observe that the effectiveness of SOC shareholders in promoting CSR principles among their affiliated funds is influenced by the funds' dominant investor group. In particular, retail investors display a certain level of resistance to the CSR undertakings of their investee funds, while such resistance is

absent in institutional investor-dominated funds.

Our study holds important academic value as it elucidates that the role of SOC ownership in promoting CSR is evolving with the institutional environment. Our results highlight the domineering role of the government as an attitude-forming force through its control of SOC since the attitudes towards CSR are not intrinsically motivated but rather externally imposed. The effectiveness of CSR undertakings by SOC is restricted by the SOC managers' comprehension of the domain and scope associated with CSR activities, as well as the conflict of interest between SOC managers' personal goals and national objectives. A targeted CSR policy may alleviate such managerial obstacles, which further changes the observed relationship between SOC ownership and CSR performance.

Endnotes

¹This report (in Chinese) is published by the Asset Management Association of China.

(https://www.amac.org.cn/hdjl/jjhywhjs/shzr/202312/t20231219_25012.html).

²Fund investors in China have the recourse to influence fund investment decisions by redeeming shares although they are relatively disadvantaged in the FMC governance compared to investors in the US (Gong et al., 2016).

³In China, state ownership results from state-owned capital investments. Following the reform of the state-owned asset management system, state-owned capital investments can manifest in three forms: investments from state-owned enterprises (SOEs) monitored by the central government (central-SOEs), investments from SOEs overseen by the provincial governments (provincial-SOEs) and investments from state-owned capital investment and management companies. All three categories of state-owned investors fall under the supervision of the State-owned Assets Supervision and Administration Commission (SASAC), operating under the authority of the State Council. Throughout this paper, we collectively refer to these state-owned entities as state-owned capital (SOC), reflecting their shared status as being corporations owned by the state government but subject to the oversight of various levels of governmental authorities.

⁴Many items in the 2016 Guiding Opinions directly respond to the managerial obstacles that are discussed in the literature review. For example, Articles (16) to (18) set requirements on SOC to build CSR leadership and governance system and to strengthen performance assessment and establish incentive-constraint mechanisms relating to CSR fulfillments. Apparently, these requirements are designed to cope with the agency problems in SOC' CSR undertaking.

⁵Hexun CSR data has been widely used in Chinese corporate CSR studies. Recent examples include Zheng et al. (2023), Wen et al. (2021), He et al. (2022) and Wu et al. (2024).

⁶For instance, if $t=1$ or 2 , then $T=0$, because half-year 1 and 2 belong to the calendar year T .

⁷Chinese Corporate Social Responsibility Index was initiated by the Shanghai Stock Exchange in 2009, which consists of 100 stocks with good CSR performance from the corporate governance sector of the Exchange. The index is called “责任指数”, and the listing code is 000048.

⁸We have also performed another test to examine whether the positive relationship is due to the improvement effect where SOC associated funds promote CSR internally among the portfolio companies. Specially, we construct a subsample consisting of stocks held by SOC associated funds around the implementation of the Guiding Opinions and examine whether the relationship between SOC ownership and firm CSR scores become more significantly positive after the implementation of the Guiding Opinions. Our test shows no evidence of such improvement effect.

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Figure 1. The difference in the average CSR score between SOC control and Non-SOC control mutual fund group

This Figure shows the semi-annual difference in the average Fund CSR score between the funds in the *SOE_control* group and the funds in the *Non-SOE_control* group. The sample period spans from 2011 to 2021. The red vertical line indicates December 2016, which marks the end of the half-year when the SASAC Guiding Opinions was issued.

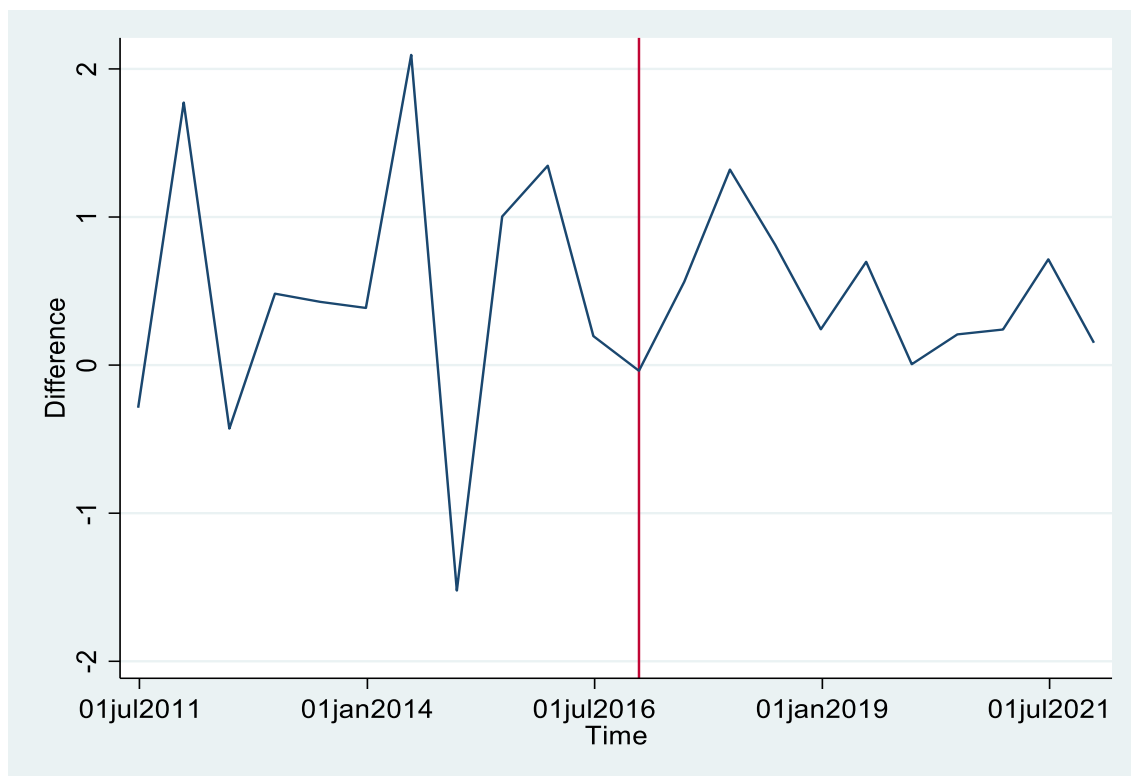


Table 1. State ownership and mutual fund CSR performance – univariate test

This table reports univariate analysis results on fund CSR performance and fund characteristics. We partition the whole sample into two sets of groups. The first set, *SOC_control* and *Non-SOC_control*, is classified by identifying the largest block shareholder of the fund management company (FMC) as a state-owned-capital (SOC) shareholder. In addition, we create another set of groups, *With_SOC_ownership* and *Without_SOC_ownership*, based on the presence or absence of SOC shareholders in the FMC. We calculate the average values of selected variables including *Fund CSR*, *Fund age*, *Fund size*, *Fund family size*, *Expense ratio*, *Fund Flow*, *Fund turnover* and *Fund return* for each fund group. The results are reported in Columns (1) and (2) of Panel A and Panel B in Table 1 respectively. Furthermore, we compute the differences in the average values between the two groups within the same set and test the significance of the differences. The results are reported in Columns (3) and (4) in Panel A and Panel B. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively.

	(1)	(2)	(3)	(4)
	<i>SOC_control</i>	<i>Non-SOC_control</i>		
	Mean	Mean	Difference	t.stat
<i>Fund CSR</i>	21.218	19.931	1.286***	9.55
<i>Fund age</i>	4.484	3.863	0.621***	15.55
<i>Fund size</i>	19.855	19.842	0.013	0.71
<i>Family size</i>	24.377	24.259	0.118***	7.01
<i>Fundturnover</i>	0.334	0.319	0.015***	5.31
<i>Fund flow</i>	0.129	0.249	-0.120***	-8.43
<i>Expense ratio</i>	0.020	0.019	0.001***	5.10
<i>Fund return</i>	0.063	0.078	-0.015***	-5.00
<i>N</i>	30480	8204		

	(1)	(2)	(3)	(4)
	<i>With</i>	<i>Without</i>		
	<i>SOC_ownership</i>	<i>SOC_ownership</i>		
	Mean	Mean	Difference	t.stat
<i>Fund CSR</i>	20.962	20.251	0.711**	2.64
<i>Fund age</i>	4.386	3.485	0.901***	11.26
<i>Fund size</i>	19.880	19.268	0.612***	17.35
<i>Family size</i>	24.428	22.730	1.698***	50.65
<i>Fundturnover</i>	0.329	0.368	-0.039***	-6.78
<i>Fund flow</i>	0.154	0.199	-0.045	-1.56
<i>Expense ratio</i>	0.020	0.022	-0.002***	-4.92
<i>Fund return</i>	0.065	0.099	-0.034***	-5.64
<i>N</i>	37157	1527		

Table 2: State ownership and mutual fund CSR performance – panel regression results

This table reports the regression results based on the following equation: $FundCSR_{i,t+1} = \beta_0 + \beta_1 \cdot State_ownership_{i,t} + \phi \cdot Controls_{i,t} + \varepsilon_{i,t+1}$. In this specification, *Fund CSR_{i,t}* represents the weighted average CSR scores of fund *i*, constructed based on the fund's semi-annual stock holding and the CSR scores of the stocks available at the end of each calendar year. *State_ownership_{i,t}* represents the fund management company' (FMC) state ownership observed at the beginning of half year *t*, which is measured by two alternative variables: *SOC_control* and *SOC_ownership*. *SOC_control* is a dummy variable equal to one if the largest shareholder of the fund's sponsoring FMC is a state-owned-capital (SOC) investor, or zero otherwise. *SOC_ownership* equals to the total percentage of all state-owned shareholders for the fund's associated FMC. *Controls_{i,t}* is the vector of lagged control variables including *Fund age*, *Fund Size*, *Family Size*, *Expense ratio*, *Fund Flow*, *Fund turnover*, and *Fund return*. Extending the baseline regression, we control for time fixed effects, fund family fixed effects and investment objective fixed effects, clustering standard errors at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively, t-statistics are presented in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
	Fund CSR _{t+1}	Fund CSR _{t+1}	Fund CSR _{t+1}	Fund CSR _{t+1}	Fund CSR _{t+1}	Fund CSR _{t+1}
<i>SOC_control</i>	1.223*** (8.51)	0.795*** (5.45)	0.037 (0.09)			
<i>SOC_ownership</i>				0.011*** (5.04)	0.008*** (3.76)	0.029 (1.89)
<i>Fund age</i>		0.757*** (9.63)	-0.188 (-1.30)		0.777*** (9.89)	-0.178 (-1.23)
<i>Fund size</i>		1.128*** (26.52)	1.580*** (13.79)		1.109*** (26.39)	1.573*** (13.72)
<i>Family size</i>		-1.007*** (-22.45)	-3.959*** (-19.59)		-0.984*** (-22.35)	-3.926*** (-19.64)
<i>Fund turnover</i>		0.129*** (45.37)	0.172*** (30.78)		0.130*** (45.45)	0.172*** (30.81)
<i>Fund flow</i>		-0.002** (-3.16)	0.002*** (3.90)		-0.002** (-3.14)	0.002*** (3.90)
<i>Expense ratio</i>		-0.484*** (-11.27)	0.044 (0.60)		-0.477*** (-11.07)	0.039 (0.53)
<i>Fund return</i>		-0.043*** (-12.40)	-0.004 (-1.44)		-0.044*** (-12.55)	-0.004 (-1.33)
Time Fe	No	No	Yes	No	No	Yes
Fund family Fe	No	No	Yes	No	No	Yes
Investment objective Fe	No	No	Yes	No	No	Yes
<i>N</i>	38684	38684	38684	38684	38684	38684
<i>adj. R²</i>	0.002	0.096	0.246	0.001	0.099	0.249

Table 3: The effects of government policy on the CSR performance of SOC connected funds

This table reports the regression results based on the following equation: $FundCSR_{i,t+1} = \beta_0 + \beta_1 \cdot State_ownership_{i,t} + \phi \cdot Controls_{i,t} + \varepsilon_{i,t+1}$. In this specification, $FundCSR_{i,t+1}$ represents the weighted average CSR scores of fund i , constructed based on the fund's semi-annual stock holding and the CSR scores of the stocks available at the end of each calendar year. $State_ownership_{i,t}$ represents the fund management company's (FMC) state ownership observed at the end of half year t , which is measured by two alternative variables: $SOC_control$ and $SOC_ownership$. $SOC_control$ is a dummy variable equal to one if the largest shareholder of the fund's sponsoring FMC is a state-owned-capital (SOC) investor, or zero otherwise. $SOC_ownership$ equals to the total percentage of all state-owned shareholders for the fund's associated FMC. $Controls_{i,t}$ is the vector of lagged control variables including *Fund age*, *Fund Size*, *Family Size*, *Expense ratio*, *Fund Flow*, *Fund turnover*, and *Fund return*. The regression is performed over two sub-periods, *Pre-policy* sample (2010.6-2016.6) and *Post-policy* sample (2016.12-2021.12). In all regressions, we control for time fixed effects, fund family fixed effects and investment objective fixed effects, clustering standard errors at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively. The t-statistics are presented in parentheses.

	Pre-policy (1) FundCSR _{t+1}	Pre-policy (2) FundCSR _{t+1}	Post-policy (3) FundCSR _{t+1}	Post-policy (4) FundCSR _{t+1}
<i>SOC_control</i>	-1.919* (-2.41)		0.756* (2.33)	
<i>SOC_ownership</i>		-0.072** (-2.79)		0.074*** (6.78)
<i>Fund age</i>	-0.353 (-1.18)	-0.296 (-1.01)	0.243 (1.58)	0.269 (1.74)
<i>Fund size</i>	2.314*** (8.88)	2.238*** (8.79)	0.798*** (8.83)	0.788*** (8.72)
<i>Family size</i>	-8.041*** (-19.14)	-7.823*** (-19.53)	-2.156*** (-16.33)	-2.110*** (-16.07)
<i>Fund turnover</i>	0.169*** (12.71)	0.170*** (12.89)	0.166*** (37.02)	0.167*** (37.11)
<i>Fund flow</i>	-0.005*** (-3.68)	-0.005*** (-3.50)	0.005*** (9.88)	0.005*** (9.93)
<i>Expense ratio</i>	-0.868*** (-4.46)	-0.832*** (-4.36)	0.396*** (6.60)	0.390*** (6.50)
<i>Fund return</i>	-0.096*** (-18.43)	-0.093*** (-18.30)	0.073*** (22.38)	0.075*** (22.87)
Time Fe	Yes	Yes	Yes	Yes
Fund family Fe	Yes	Yes	Yes	Yes
Investment objective Fe	Yes	Yes	Yes	Yes
<i>N</i>	9902	9902	28782	28782
adj. <i>R</i> ²	0.254	0.254	0.255	0.256

Table 4: The effects of government CSR policy on SOC-connected funds' tracking errors against the CSR index

This table reports the estimates of the following regression: $FundSTE_{i,t+1} = \beta_0 + \beta_1 \cdot State_{ownership}_{i,t} + \phi \cdot Controls_{i,t} + \varepsilon_{i,t+1}$, conducted on two subsamples *Pre-policy* (2010.6-2016.6) and *Post-policy* (2016.12-2021.12). $FundSTE_{i,t}$ is fund i 's tracking error (%) relative to the semi-annual return of the Chinese Corporate Social Responsibility (CCSR) index. Following El Ghoul & Karoui (2022), we compute $Fund_STE$ as the standard deviation of the difference between the daily returns of the fund and the daily returns of the CCSR. All variables are same in Table 4. In all regressions, we control for fund family fixed effects, time fixed effects and investment objective fixed effects and cluster standard errors at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively, t-statistics are presented below in parentheses.

	Pre-policy (1) FundSTE _{t+1}	Pre-policy (2) FundSTE _{t+1}	Post-policy (3) FundSTE _{t+1}	Post-policy (4) FundSTE _{t+1}
<i>SOC_control</i>	0.813** (3.04)		-1.144*** (-8.76)	
<i>SOC_ownership</i>		0.015* (2.18)		-0.041*** (-7.98)
<i>Fund age</i>	-0.012 (-0.10)	-0.011 (-0.09)	-0.220** (-3.27)	-0.231*** (-3.43)
<i>Fund size</i>	-0.217** (-3.01)	-0.218** (-3.02)	0.065 (1.69)	0.070 (1.83)
<i>Family size</i>	1.991*** (11.76)	1.979*** (11.78)	2.096*** (30.99)	2.076*** (30.85)
<i>Fund turnover</i>	0.009* (2.43)	0.009* (2.43)	0.016*** (9.11)	0.016*** (9.01)
<i>Fund flow</i>	0.008*** (11.95)	0.008*** (11.91)	0.001** (2.82)	0.001** (2.79)
<i>Expense ratio</i>	0.802*** (12.12)	0.800*** (12.09)	0.249*** (8.42)	0.253*** (8.56)
<i>Fund return</i>	0.168*** (52.55)	0.167*** (52.48)	0.054*** (25.20)	0.054*** (24.93)
Time Fe	Yes	Yes	Yes	Yes
Fund family Fe	Yes	Yes	Yes	Yes
Investment objective Fe	Yes	Yes	Yes	Yes
<i>N</i>	9902	9902	28782	28782
adj. <i>R</i> ²	0.436	0.436	0.178	0.178

Table 5: Robustness tests

This table reports the results of regressions based on the following specification: $FundCSR_{i,t+1} = \beta_0 + \beta_1 \cdot State_ownership_{i,t} + \phi \cdot Controls_{i,t} + \varepsilon_{i,t+1}$. $Fund\ CSR_{i,t+1}$ represents the semi-annual weighted average CSR scores of fund i 's stock holdings. $State_ownership_{i,t}$ represents the fund management company' (FMC) state ownership observed at the end of half year t , which is measured by two alternative variables: $SOC_control$ and $SOC_ownership$. $SOC_control$ is a dummy variable equal to one if the largest shareholder of the fund's sponsor FMC is a state-owned-capital (SOC) investor, or zero otherwise. $SOC_ownership$ equals to the total percentage of all SOC shareholders of the fund's sponsor FMC. In regressions reported Columns (1) to (4), we replace the dependent variable with $Top_10_CSR_{i,t+1}$, which is the weighted average CSR score of the top 10 holdings of the fund. In regressions reported Columns (5) to (8). We replace the SOC-ownership variables with to alternative variables. $Absolute_SOC_control$ is a dummy variable equal to one if the largest shareholder of the FMC is an SOC shareholder, holding more than 50% of the FMC's ownership. $SOC_ownership_dummy$ is a dummy variable equal to one if the FMC has at least one SOC shareholder or otherwise zero. Regressions are conducted on tow samples *Pre-policy* (2010.6-2016.6) and *Post-policy* (2016.12-2021.12), partitioned by the implementation of the Guiding Opinions. In all regressions, we control for various fund and fund firm specific characteristics and we also control for fund family fixed effects, time fixed effects and investment objective fixed effects and cluster standard errors at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively. The t-statistics are presented below in parentheses.

	Alternative dependent variable				Alternative independent variables			
	Pre-policy	Pre-policy	Post-policy	Post-policy	Pre-policy	Pre-policy	Post-policy	Post-policy
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Top10CSR _{t+1}	Top10CSR _{t+1}	Top10CSR _{t+1}	Top10CSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}
<i>SOC control</i>	-1.175*		0.884**					
	(-2.30)		(2.69)					
<i>SOC ownership</i>		-0.037*		0.036***				
		(-2.02)		(5.12)				
<i>Absolute SOC control</i>					-3.717***		1.432**	
					(-4.48)		(2.69)	
<i>SOC ownership dummy</i>						-5.407*		2.275*
						(-2.07)		(2.01)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fund family Fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inv objective Fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	9902	9902	28782	28782	9902	9902	28782	28782
<i>adj. R²/ Pse. R²</i>	0.179	0.171	0.152	0.152	0.255	0.254	0.255	0.255

Table 6. Endogeneity tests

This table reports the results of regressions based on the following specification: $Non_SOE_CSR_{i,t+1} = \beta_0 + \beta_1 \cdot State_ownership_{i,t} + \phi \cdot Controls_{i,t} + \varepsilon_{i,t+1}$. $NON_SOE_CSR_{i,t+1}$ represents the semi-annual weighted average CSR scores of fund i 's holdings of non-state-owned companies. $State_ownership_{i,t}$ represents the fund management company' (FMC) state ownership observed at the end of half year t , which is measured by two alternative variables: $SOC_control$ and $SOC_ownership$. $SOC_control$ is a dummy variable equal to one if the largest shareholder of the fund's sponsor FMC is a state-owned-capital (SOC) investor, or zero otherwise. $SOC_ownership$ equals to the total percentage of all SOC shareholders of the fund's sponsor FMC. Regressions are conducted on a whole sample period from June 2011 to December 2021. We further partition the whole sample period into two sub-samples *Pre-policy* (2010.6-2016.6) and *Post-policy* (2016.12-2021.12) by the implementation of the Guiding Opinions. In all regressions, we control for various fund and fund firm specific characteristics and we further control for fund family fixed effects, time fixed effects and investment objective fixed effects. Standard errors are clustered at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively. The t-statistics are presented below in parentheses.

	All sample (1) Non-SOE CSR _{t+1}	All sample (2) Non-SOE CSR _{t+1}	Pre-policy (3) Non-SOE CSR _{t+1}	Pre-policy (4) Non-SOE CSR _{t+1}	Post-policy (5) Non-SOE CSR _{t+1}	Post-policy (6) Non-SOE CSR _{t+1}
<i>SOC_control</i>	0.071 (0.37)		-0.301 (-0.84)		0.964* (2.94)	
<i>SOC_ownership</i>		0.009 (1.26)		-0.037* (-3.13)		0.035** (5.04)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes
Family&object FE	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	38268	38268	9781	9781	28487	28487
adj. <i>R</i> ²	0.230	0.230	0.139	0.140	0.215	0.215

Table 7. Mechanics: State ownership and fund trading decision on CSR investment

This table reports the results of regressions based on the following specification: $SOC_Trad_{j,T+1} = \beta_0 + \beta_1 \cdot Firm_CSR_{j,T} + \phi \cdot Controls_{j,T} + \varepsilon_{j,T+1}$, where $Firm_CSR_{j,T}$ is the CSR score of stock j reported at the end of year $T-1$; $Controls_{j,T}$ is a vector of lagged control variables including the buy-and-hold return (BHR), firm size ($Size$), leverage (Lev), return on total assets (ROA), and institutional ownership (IO). All independent variables are firm specific characteristics as recorded at the end of year T . The independent variable $SOC_Trad_{j,T+1}$ measures the changes in the weighting of stock j in the aggregated portfolio constructed as follows. At the beginning of each year, for all funds that are managed by any FMCs whose largest shareholder is an SOC entity, we aggregate their holdings of each individual stock and track the changes in the aggregate holding of this stock over the subsequent year. We define it as $SOC_control_Trad$. Applying the same method to funds managed by any FMCs with at least one SOC shareholder, we obtain another variable $SOC_ownership_Trad$. Regression results using $SOC_control_Trad_{j,T+1}$ as the independent variable are reported in Columns (1) to (3) and those using $SOC_ownership_Trad_{j,T}$ as the independent variable are reported in Columns (4) to (6). Regressions are conducted on a whole sample period from June 2011 to December 2021. We further partition the whole sample period into two sub-samples Pre-policy (2010.6-2016.6) and Post-policy (2016.12-2021.12) by the implementation of the Guiding Opinions. In all regressions, we control for time fixed effects and industry fixed effects. Standard errors are clustered at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively. The t-statistics are presented below in parentheses.

	<i>SOC_control Trad_{T+1}</i>			<i>SOC_ownership Trad_{T+1}</i>		
	All sample (1)	Pre-policy (2)	Post-policy (3)	All sample (4)	Pre-policy (5)	Post-policy (6)
<i>Firm_CSR</i>	0.000 ^a (2.22)	0.000 (0.67)	0.001 ^{**} (2.96)	0.002 ^{***} (7.29)	0.000 (0.99)	0.004 ^{***} (7.21)
<i>Previous BHR</i>	-0.052 ^{***} (-5.78)	-0.063 ^{***} (-4.84)	-0.101 ^{***} (-5.87)	-0.051 ^{***} (-4.06)	-0.118 ^{***} (-4.95)	-0.107 ^{***} (-4.08)
<i>BM</i>	0.101 ^{***} (8.78)	0.086 ^{***} (4.65)	0.203 ^{***} (9.30)	0.116 ^{***} (7.65)	0.176 ^{***} (6.02)	0.234 ^{***} (7.55)
<i>Size</i>	-0.027 ^{***} (-10.04)	-0.055 ^{***} (-13.83)	-0.047 ^{***} (-8.13)	-0.008 [*] (-2.15)	-0.099 ^{***} (-15.13)	-0.011 (-1.31)
<i>Leverage</i>	0.021 (1.61)	0.031 (1.45)	0.040 ^{**} (2.81)	0.011 (0.59)	0.062 [*] (2.29)	0.022 (0.68)
<i>ROA</i>	0.003 ^{***} (4.30)	0.002 [*] (2.27)	0.004 ^{***} (4.42)	-0.003 (-0.06)	0.003 [*] (2.31)	0.032 (0.37)
<i>IO</i>	-0.000 [*] (-2.49)	-0.001 ^{***} (-4.14)	-0.001 ^{**} (-2.83)	-0.000 (-0.08)	-0.001 ^{***} (-4.81)	-0.000 (-0.32)
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fe	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	43227	20258	43227	22969	20258	22969
adj. <i>R</i> ²	0.020	0.027	0.020	0.014	0.030	0.015

a. The coefficient is 0.0003.

Table 8. Reverse causality: Prior CSR performance and subsequent SOC shareholdings

This table reports the results of regressions where *SOC_ownership* is regressed on the lagged average CSR score of FMCs. Specially, *FMC_MCSR* is the equally weighted average of CSR scores of an FMC's affiliated funds and *FMC_VCSR* represents the value-weighted average of CSR scores of an FMC's affiliated funds. In all regressions, we control for FMC specific characteristics of age, size, fee and prior return. Furthermore, we control for time fixed effects and fund family fixed effects in all regressions. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively. The t-statistics are presented below in parentheses.

	Whole sample	Pre-policy	Post-policy	Whole sample	Pre-policy	Post-policy
	(1)	(2)	(3)	(4)	(5)	(6)
	SOC ownership _{t+1}	SOC ownership _{t+1}	SOC ownership _{t+1}	SOC ownership _{t+1}	SOC ownership _{t+1}	SOC ownership _{t+1}
<i>FMC_MCSR</i>	-0.0427 (-1.21)	-0.0685 (-1.01)	-0.0344 (-0.80)			
<i>FMC_WCSR</i>				-0.0346 (-1.43)	-0.0176 (-0.44)	-0.0336 (-0.94)
<i>FMC_Age</i>	0.1177 (1.79)	0.0578 (1.05)	0.0546 (0.80)	0.1180 (1.80)	0.0518 (0.94)	0.0555 (0.81)
<i>FMC_Size</i>	-0.6550 (-1.47)	-1.7605* (-2.26)	0.2595 (0.93)	-0.6528 (-1.45)	-1.6728* (-2.13)	0.2592 (0.91)
<i>FMC_Managementfee</i>	-3.9961 (-0.85)	0.7197 (0.09)	-5.2022 (-1.10)	-4.0007 (-0.85)	1.0714 (0.14)	-5.1103 (-1.07)
<i>FMC_Expense ratio</i>	-0.0450 (-0.25)	0.1788 (0.44)	-0.0904 (-1.14)	-0.0449 (-0.25)	0.2711 (0.70)	-0.0920 (-1.14)
<i>FMC_Return</i>	-0.0193 (-0.08)	1.1869 (0.69)	-0.1395 (-0.64)	-0.0155 (-0.06)	0.2883 (0.16)	-0.1338 (-0.61)
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes
Fund family Fe	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	2084	740	1344	2084	740	1344
adj. <i>R</i> ²	0.949	0.932	0.976	0.949	0.932	0.976

Table 9: Fund holder structure effect

This table reports the regression results based on the following equation: $FundCSR_{i,t+1} = \beta_0 + \beta_1 \cdot State_ownership_{i,t} + \phi \cdot Controls_{i,t} + \varepsilon_{i,t+1}$. In this specification, $FundCSR_{i,t}$ represents the weighted average CSR scores of fund i , constructed based on the fund's semi-annual stock holding and the CSR scores of the stocks available at the beginning of each calendar year. $State_ownership_{i,t}$ represents the fund management company's (FMC) state ownership observed at the end of half year t , which is measured by two alternative variables: $SOC_control$ and $SOC_ownership$. $SOC_control$ is a dummy variable equal to one if the largest shareholder of the fund's sponsoring FMC is a state-owned-capital (SOC) investor, or zero otherwise. $SOC_ownership$ equals to the total percentage of all state-owned shareholders for the fund's associated FMC. $Controls_{i,t}$ is the vector of lagged control variables including *Fund age*, *Fund Size*, *Family Size*, *Expense ratio*, *Fund Flow*, *Fund turnover*, and *Fund return*. Panel A shows the regression results for the sample made up of funds held dominantly by institutional investors and Panel B reports the regression results for the sample funds dominantly held by retail investors. For both samples, regressions are performed over two sub-periods, *Pre-policy* sample period (2010.6-2016.6) and *Post-policy* sample period (2016.12-2021.12). In all regressions, we control for time fixed effects, fund family fixed effects and investment objective fixed effects, clustering standard errors at the fund level. *, **, and *** indicate 10%, 5%, and 1% significance levels, respectively. The t-statistics are presented in parentheses.

<i>Panel A: Institutional investor dominated funds</i>						
	All sample (1)	All sample (2)	Pre-policy (3)	Pre-policy (4)	Post-policy (5)	Post-policy (6)
	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}
<i>SOC control</i>	1.570* (2.17)		-1.288 (-0.97)		1.988** (3.16)	
<i>SOC ownership</i>		0.132*** (3.96)		-0.030 (-0.44)		0.094*** (4.55)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes
Fund family Fe	Yes	Yes	Yes	Yes	Yes	Yes
Inv objective Fe	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	11576	11576	1948	1948	9628	9628
<i>adj. R</i> ²	0.152	0.155	0.247	0.247	0.189	0.189
<i>Panel B: Retail investor dominated funds</i>						
	All sample (1)	All sample (2)	Pre-policy (3)	Pre-policy (5)	Post-policy (4)	Post-policy (6)
	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}	FundCSR _{t+1}
<i>SOC control</i>	-0.441 (-0.95)		-2.661** (-2.89)		0.473 (1.16)	
<i>SOC ownership</i>		0.026 (1.52)		-0.087** (-3.02)		0.088*** (6.56)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes
Fund family Fe	Yes	Yes	Yes	Yes	Yes	Yes
Inv objective Fe	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	27108	27108	7954	7954	19154	19154
<i>adj. R</i> ²	0.145	0.145	0.153	0.153	0.146	0.148