

# CEO duality, organizational slack, and firm performance in China

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**Abstract** CEO duality, organizational slack, and ownership types have been found to affect firm performance in China. However, existing work has largely focused on their direct relationships with firm performance. Advancing this research, we develop an integrative framework to address an important and previously underexplored question: How do CEO duality and organizational slack affect the performance of firms with different ownership types? Specifically, we compare the moderating effects of CEO duality on the relationship between organizational slack and firm performance in China's state-owned enterprises (SOEs) and private-owned enterprises (POEs). Findings suggest that there is a positive relationship between organizational slack and firm performance, and that CEO duality negatively moderates this relationship in SOEs, but positively in POEs.

**Keywords** CEO duality · Organizational slack · China

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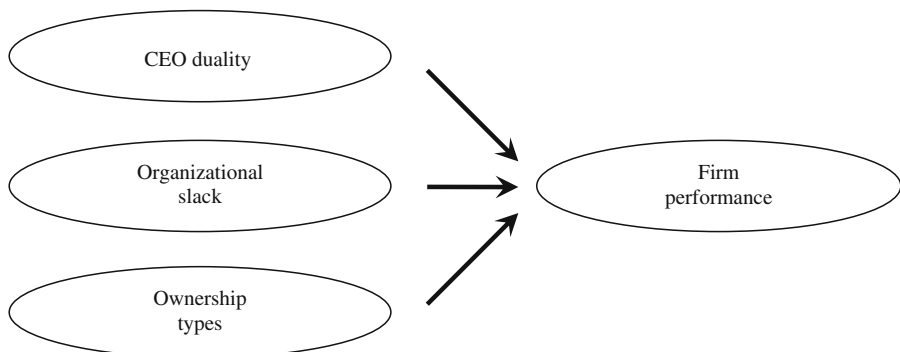
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As China emerges as a global economic power, the strategy, governance, and performance of Chinese firms necessitate more research attention (Chen & Young, 2009; Hu, Tam, & Tan, 2009; Li & Peng, 2008; Quer, Claver, & Rienda, 2007; Wright, Filatotchev, Hoskisson, & Peng, 2005). This article endeavors to add to our understanding of the drivers of firm performance in China, by extending, integrating, and enriching three lines of work: (1) CEO duality, (2) organizational slack, and (3) ownership types. Earlier research has investigated how these three factors affect firm performance. First, Tian and Lau (2001) and Peng, Zhang, and Li (2007) report that CEO duality (one person serving both as a firm's CEO and board chair) is positively correlated with firm performance. Second, Tan and Peng (2003) find that organizational slack contributes to firm performance. These findings have recently been replicated by Su, Xie, and Li (2009) and Ju and Zhao (2009). Third, Peng, Tan, and Tong (2004) investigate the effect of various ownership types on firm performance. However, existing work, despite its insights, has largely focused on the *direct* relationships between CEO duality, organizational slack, and ownership types on the one hand and firm performance on the other hand (Figure 1). Left unanswered is the question: How do CEO duality, organizational slack, and ownership types *interact* with each other and further influence firm performance?

Given the uncertainty of China's institutional transitions, the answer to the complex question above is not obvious. Thus, efforts to address this question may represent an opportunity to advance the next generation China strategy research (Li & Peng, 2008; Peng, Sun, Pinkham, & Chen, 2009). Both Peng et al. (2007) and Tan and Peng (2003) suggest that it may be especially valuable to develop a contingency perspective when discussing the impact of CEO duality and organizational slack, respectively, on firm performance. Following such advice, we argue that it is important to enhance our understanding of the underexplored, collective effect of CEO duality, organizational slack, and ownership types on firm performance.

While a number of studies have found that organizational slack impacts firm performance (Daniel, Lohrke, Fornaciari, & Turner, 2004), this impact boils down to *how* the firm uses its slack. Since the CEO plays a key role behind decisions on how to deploy slack, CEO duality may influence how the firm uses its slack and thus may affect firm performance (Boyd, 1995).



**Figure 1** Existing research

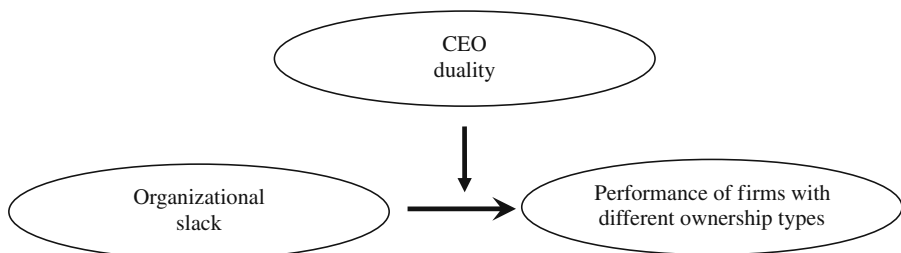
In addition, firms with different ownership types—specifically, state-owned enterprises (SOEs) and private-owned enterprises (POEs)—are governed differently in China (Ju & Zhao, 2009; Peng et al., 2004). CEOs in SOEs and POEs confront a different set of control and monitoring mechanisms, resulting in different incentives on how to most effectively use organizational slack. Under these circumstances, the issue of whether CEO duality is more suitable for Chinese SOEs and POEs remains unsolved.

Consequently, we develop an integrative framework (Figure 2) to address an important and previously underexplored question: How do CEO duality and organizational slack affect the performance of firms with different ownership types? Overall, our study can be positioned as a replication with extension (Tsang & Kwan, 1999). Specifically, we follow Ju and Zhao (2009) and Su et al. (2009) to use newer and different data to *replicate* earlier work on the slack-performance link, and we *extend* it by developing an integrative framework.

### Organizational slack and firm performance

Organizational slack represents potentially utilizable resources that can be redeployed to achieve the firm's goals (Daniel et al., 2004). It can be divided into (1) absorbed slack (such as underutilized capacity) and (2) unabsorbed slack (such as currently uncommitted cash flows and untapped lines of credit) (Nohria & Gulati, 1996). By definition, absorbed slack is not easy to be redeployed, and unabsorbed slack is more flexible and more easily redeployable. Therefore, unabsorbed slack allows for greater CEO discretion. As a result, whether there is a separate board chair monitoring and controlling how the CEO uses slack—known as non-duality—may have a bearing on the link between organizational slack and firm performance. In addition, in China's dynamic environment, unabsorbed slack may have a stronger impact on firm performance than absorbed slack (Tan & Peng, 2003). Thus, following Nohria and Gulati (1996), we focus on *unabsorbed slack* in this article.

While there are arguments that slack may breed inefficiency and inhibit firm performance (Daniel et al., 2004), for three reasons, we argue that there may be a positive relationship between unabsorbed slack and firm performance. First, most Chinese firms face one of the most competitive product markets in the world and they have to rapidly develop new products (Ju & Zhao, 2009; Li, Li, Liu, &



**Figure 2** An integrative framework for this study

Wang, 2005). Unabsorbed slack can more effectively relax resource constraints and support innovations to unleash new products (George, 2005).

Second, China's fast-changing environment calls for frequent changes of strategies to fit the environmental changes (Li et al., 2005; Peng, 2003). Unabsorbed slack may be able to facilitate more effective strategic changes in the face of environmental challenges.

Third, most Chinese firms suffer from a shortage of financial resources. Due to the weak financial infrastructure, it is often difficult for them to raise capital from capital markets. Thus, firms endowed with unabsorbed slack, which typically includes uncommitted financial resources that can be quickly deployed, may have a significant competitive advantage. Three earlier studies by Ju and Zhao (2009), Su et al. (2009), and Tan and Peng (2003), all find a positive impact of unabsorbed slack on firm performance in China. Thus, we replicate such earlier work by testing:

**Hypothesis 1** The level of organizational slack is positively related to firm performance.

### The moderating effect of CEO duality

The influence of organizational slack on firm performance is also determined by how the firm uses its slack (Hu et al., 2009). We argue that CEO duality may moderate the slack-performance relationship, because CEO duality would influence how the CEO uses and deploys organizational slack. In corporate governance, CEO duality is a double-edged sword (Finkelstein & D'Aveni, 1994). On the positive side, having a separate board chair (non-duality) reduces the extent to which the CEO may use organizational slack for his/her personal benefits at the expense of organizational goals. However, on the negative side, having two top executives (non-duality) may reduce decision speed, introduce potential conflicts at the top, and thus hurt firm performance (Li & Li, 2009). CEO duality, in comparison, avoids confusion among employees as to who is the boss and facilitates more timely and more effective decision making. As a result, the *net* sum of the impact of CEO duality on firm performance continues to be debated (Dalton et al., 1998).

The continued debate on CEO duality suggests that it is difficult to argue whether CEO duality is uniformly good or bad for firm performance (Peng et al., 2007). A challenge for us is to specify the contingencies under which CEO duality, through its influence on how organizational slack is used, may contribute to or inhibit firm performance. Specifically, we argue that a key to specify such contingencies is to differentiate firms' ownership types. During China's institutional transitions, the diversity of firm ownership is remarkable (Ju & Zhao, 2009; Ma, Yao, & Xi, 2006; Peng et al., 2004). Because SOEs and POEs are the two primary types of firms in China, we suggest that the moderating effect of CEO duality would be different in these two types of firms.

In China's SOEs, agency problems are serious (Chen & Young, 2009; Hu et al., 2009). When there is CEO duality, the CEO may be more likely to use organizational slack for her/his own personal goals at the expense of organizational

interests. Thus, CEO duality may reduce the proposed positive relationship between organizational slack and firm performance.

Furthermore, China's SOEs tend to avoid proactive and risky decisions, and most of them rarely change strategies quickly. Thus, the advantage of CEO duality in making fast decisions about the usage of organizational slack may not necessarily work in SOEs. Instead, CEO duality may impair the positive influence of organizational slack on firm performance in SOEs. Therefore:

**Hypothesis 2** CEO duality reduces the positive relationship between organizational slack and firm performance in China's SOEs.

In contrast, CEO duality may positively moderate the slack–performance relationship in POEs. First, in the case of CEO duality, the likelihood of the CEO using organizational slack for his/her own personal benefits at the expense of firm performance is low. This is because the CEO in POEs who doubles as the board chair is the private owner himself/herself, and the owner is likely to keep the firm's interests in mind when making decisions on organizational slack (George, 2005).

Second, because China's POEs usually face a turbulent environment, they exhibit a stronger propensity for proactiveness in their decisions (Peng et al., 2004). Compared with non-duality, CEO duality may enable the CEO in POEs to make faster decisions, including the decisions on how to use organizational slack (Li & Li, 2009; Peng et al., 2007). Thus, the benefits of organizational slack in facilitating strategic change and environment adaptation, argued earlier, may be reaped more rapidly and more effectively under CEO duality. Thus:

**Hypothesis 3** CEO duality enhances the positive relationship between organizational slack and firm performance in China's POEs.

## Methods

### Sample

Existing work in this area has typically used data collected in the 1990s (Peng et al., 2004, 2007; Tan & Peng, 2003; Tian & Lau, 2001). Given the tremendous changes that have taken place in China since the last decade, it seems imperative that this study use newer data, as recently reported by Ju and Zhao (2009) and Su et al. (2009). As a result, we use data from 2004 and 2005. Specifically, our sample is composed of publicly held firms that traded on the Shanghai and Shenzhen Stock Exchanges drawn from the China Stock Market Accounting Database (CSMAR)—one of the most influential financial databases in China. We randomly select a sample of 300 firms, including 163 SOEs and 137 POEs. All the data come from annual reports published in 2004 and 2005. To ensure that there is no systematic sampling error, we compare our sample with other firms in the database along major attributes such as firm size, age, and sales using *t*-tests. All *t*-statistics are insignificant, suggesting little evidence of sampling error.

## Measures

In this study, we focus on unabsorbed slack. Based on the previous literature, unabsorbed slack is measured by (1) (current asset–current liabilities)/total asset and (2) debt/total asset (inversed). Current asset is the most easily deployed resource and provides managers the greatest degree of freedom in allocating it to alternate uses (George, 2005). The difference between current asset and current liabilities reflects the net current asset the firm can allocate to alternate use. We divide it by total asset to eliminate the influence of firm size. A firm with a high debt/asset ratio has a relatively low ability to obtain additional funds through incurring debt, thus the freedom to reallocate resources or raise additional debt to meet expedient needs becomes restricted. Therefore, the inversed debt/asset ratio is also used to measure unabsorbed slack. The reliability coefficient of unabsorbed slack is 0.908, higher than the recommended 0.7, and the loadings of both items are 0.961, higher than the recommended 0.7.

Similar to Peng et al. (2007), firms in which the CEO is also the board chair are coded 1 and other firms 0. Following Zhang (2006), firm performance is operationalized as return on assets (ROA). Because there usually is a time lag of the influence of organizational slack on firm performance, we follow Tan and Peng (2003) by measuring CEO duality and organizational slack with 2004 data and measuring other variables with 2005 data.

Seven control variables are employed: (1) firm size (logarithm of total assets), (2) firm age, (3) environmental munificence, (4) environmental dynamism, (5) outside directors, (6) CEO ownership, and (7) industry. While firm size and age are standard control variables, inclusion of environmental munificence and dynamism requires some explanation. Earlier work by Peng et al. (2007) supports a contingency perspective that CEO duality is beneficial for firms located in a low munificence and high dynamism environment. Thus, we control these two environmental dimensions. Following Peng et al. (2007), we measure munificence by the firm's headquarters location. Because coastal regions have substantial managerial, technological, and governance resources, coastal regions are regarded as high munificence environments. The coastal provinces and municipalities are Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Liaoning, Shandong, Shanghai, Tianjin, and Zhejiang. Conversely, non-coastal regions are regarded as low munificence environments. Environmental dynamism is operationalized by a standardized measure of the volatility of industry sales growth rate over five years (Boyd, 1995; Peng et al., 2007).

Outside directors is typically studied together with CEO duality in corporate governance research (Dalton et al., 1998). The impact of outside directors on firm performance remains ambiguous. In China, Tian and Lau (2001) report no significant relationship between outside directors and firm performance, and Peng (2004) finds that outside directors have relatively little impact on ROA but a moderately positive impact on sales growth. Consequently, the percentage of outside directors on boards is controlled in this study. Meanwhile, CEO ownership is at a rather low level in China (on average, 0.04587% of the firm's equity). Thus, whether CEO ownership can influence firm performance remains to be seen.

Because CEO ownership is at a low level, we measure CEO ownership by a dummy variable (whether there is CEO ownership), rather than the ratio of the stock held by the CEO. Finally, industries are broadly controlled using dummy variables to indicate the six main industry groups classified by the stock exchanges.

## Findings

Table 1 shows basic statistics. We first calculate the variance inflation factors (VIFs). The VIFs are below 2, well below the cut-off point of 10, suggesting little multicollinearity in our data.

Our findings are reported in Table 2, with three samples: (1) combined, (2) SOEs, and (3) POEs. For each sample, we first enter control variables and then enter the main variables. For the combined sample, Model 2 reports a significantly positive relationship between organizational slack and firm performance ( $\beta=0.132$ ,  $p<0.001$ ), which supports Hypothesis 1. Further, Models 4 and 7 test Hypothesis 1 again based on the SOE and POE samples, respectively. Results are also supportive of Hypothesis 1 (Model 4:  $\beta=0.59$ ,  $p<0.1$ ; Model 7:  $\beta=0.178$ ,  $p<0.001$ ).

In Models 5 and 8, when adding the moderating terms (CEO duality), the related variables are mean-centered to minimize the threat of multicollinearity in equations. Model 5 indicates that there is a negative moderating effect of CEO duality in SOEs ( $\beta=-0.013$ ,  $p<0.05$ ), thus providing support for Hypothesis 2. Meanwhile, there is a positive moderating effect of CEO duality in POEs ( $\beta=0.024$ ,  $p<0.001$ ), which supports Hypothesis 3.

## Discussion

### Contributions

In our view, at least two contributions—theoretical and empirical—emerge. First, theoretically, unlike most studies cited earlier that concentrate on the direct impact of CEO duality, organizational slack, and ownership types on firm performance, we have developed an integrative framework. Responding to the call issued by Li and Peng (2008) and Peng et al. (2009), this framework helps us advance China strategy research by addressing a complex, important, and previously underexplored question. Adding to the debate on CEO duality and organizational slack, we have not simply conducted “one more” study on whether CEO duality and organizational slack are uniformly good or bad. Instead, we have advocated and enriched a contingency perspective focusing on ownership effects in the context of China’s institutional transitions. Thus, the right question to ask is not whether CEO duality and organizational slack are uniformly good or bad, but rather, under what contingencies predictions are more likely to be supported.

Second, empirically, we have undertaken a rigorous replication with extension. Our findings show (1) that there is a positive relationship between organizational slack and firm performance and (2) that CEO duality negatively moderates this

**Table 1** Descriptive statistics and correlation matrix.

	Mean	S. D.	1	2	3	4	5	6	7	8
Combined sample (N=300)										
1	9.319	.396								
2	14.030	9.331	-.037							
3	.603	.490	.225**	-.035						
4	.835	.747	.577**	.063	.171**					
5	.517	.501	.167**	.068	.088	.148*				
6	.346	.046	.061	-.045	.103	.054	-.037			
7	.292	.176	-.104	-.142*	.055	.009	.005	.041		
8	.247	.432	-.131*	-.046	-.042	-.018	-.236	.029	.001	
9	.029	.079	.242**	-.059	.111	.204**	.010	-.017	.274**	-.166**
SOE sample (N=163)										
1	9.364	.409								
2	12.448	8.943	-.067							
3	.577	.496	.244**	-.008						
4	.889	.810	.644**	.036	.180*					



5	CEO ownership	.491	.501	.174*	.028	.046	.132				
6	% of outside directors	.347	.047	.081	-.140	.045	.146	.016			
7	Organizational slack	.300	.160	.040	-.053	.063	.092	.068	.027		
8	CEO duality	.209	.408	-.112	-.063	-.094	-.072	-.372**	.038	.004	
9	Performance	.038	.071	.333**	-.004	.104	.247**	-.035	-.027	.195*	-.118
POE sample (N=137)											
1	Firm size	9.266	.375								
2	Age	15.912	9.465	.051							
3	Environmental munificence	.635	.483	.223**	-.092						
4	Environmental dynamism	.770	.661	.464**	.142	.174*					
5	CEO ownership	.547	.500	.179*	.093	.133	.186*				
6	% of outside directors	.346	.046	.035	.061	.175*	-.080	-.102			
7	Organizational slack	.282	.194	-.268**	-.215**	.053	-.095	-.052	.055		
8	CEO duality	.292	.456	-.127	-.073	-.001	.071	-.110	.021	.007	
9	Performance	.019	.087	.127	-.067	.137	.145	.069	-.009	.331**	-.185**

\* $p < 0.05$ ; \*\* $p < 0.01$ .

**Table 2** Regression analysis.<sup>a</sup>

	Combined sample (N=300)			SOE sample (N=163)			POE sample (N=137)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
Constant	-.255+	-.397**	-.333*	-.3788	-.328*	-.076	-.375+	-.200	
Firm size	.034*	.046**	.047**	.050**	.043*	.008	.037+	.029	
Age	-.001	.000	.000	.000	.000	.000	.000	.000	
Environmental munificence	.006	.003	-.009	-.009	-.011	.020	.014	.014	
Environmental dynamism	.013	.009	.014	.011	.013	.014	.010	.016	
CEO ownership	-.005	.006	-.008	-.009	-.019+	.004	.003	-.006	
% of outside directors	-.092	-.108	-.149	-.149	-.105	-.006	-.060	-.281	
Organizational slack		.132***		.059+	.061+		.178***	.141***	
CEO duality					-.025+			-.030+	
Slack × duality					-.013*			.024***	
R square	.085	.166	.193	.210	.254	.040	.176	.301	
Adjusted R square	.063	.144	.157	.169	.205	-.012	.124	.245	
F value	3.870***	7.263***	5.307***	5.114***	5.172***	.776	3.414**	5.414***	

+ $p < 0.10$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

<sup>a</sup> Industry dummies are omitted.

**Table 3** Cumulative findings on the relationship between organizational slack and firm performance.

Studies	Sample	Key findings
Tan and Peng (2003)	Survey data of 57 Chinese SOEs in the electronics industry in 1991–1992 and archival data of 1,532 Chinese SOEs in multiple manufacturing industries in 1991–1992.	(1) Unabsorbed slack is positively related to firm performance, while absorbed slack is negatively related to firm performance. (2) The impact of slack on performance is inverse U-shaped.
Su et al. (2009)	Archival data of 967 firms listed on the Shanghai and Shenzhen Stock Exchanges in 2004–2005.	(1) Unabsorbed slack is positively related to firm performance. (2) The positive relationship between unabsorbed slack and firm performance is moderated by resource scarcity and environmental dynamism.
Ju and Zhao (2009)	Archival data of 60,945 Chinese manufacturing firms in 1998–2002.	(1) Unabsorbed slack is positively related to firm performance, while absorbed slack is negatively related to firm performance. (2) The slack–performance relationship is moderated by ownership and industry competitive intensity.
This study	Archival data of 300 firms listed on the Shanghai and Shenzhen Stock Exchanges in 2004–2005.	(1) Unabsorbed slack is positively related to firm performance. (2) CEO duality reduces the positive relationship between organizational slack and firm performance in China's SOEs, but enhances such a relationship in China's POEs.

relationship in SOEs, but positively in POEs. In other words, CEO duality can indirectly contribute to firm performance in China's SOEs, but can also indirectly impair firm performance in POEs. These findings thus replicate and extend Peng et al. (2007) by further specifying the nature of CEO duality as a two-edged sword. Meanwhile, we also replicate, extend, and largely support Tan and Peng's (2003) findings, by using newer data and documenting a positive impact of organizational slack on firm performance. Further, this study joins the recent studies by Ju and Zhao (2009) and Su et al. (2009), which have also replicated and supported most of Tan and Peng's (2003) findings (see Table 3 for an overview of the cumulative findings from four studies).

Overall, to the extent that science is a cumulative enterprise, the strategy field needs more replications with extensions in order to make more progress (Tsang & Kwan, 1999). Unfortunately, there is a paucity of replications in strategy research. This study thus contributes to the literature by serving as an example of advancing earlier work through a rigorous replication with extension. Moreover, while previous work has replicated US findings using China data (Peng, 2004; Peng et al., 2007; Tan & Peng, 2003), we have gone one step further by joining Ju and Zhao (2009) and Su et al. (2009) and replicating earlier China findings with new and different data from China.

#### Limitations and future research directions

Among the limitations, our inability to capture a non-linear (presumably inverted U-shape) effect of the impact of slack on firm performance (as reported by Tan and Peng [2003]) calls for future work. Despite our support for Hypothesis 1, no one can argue for a linear position that "the more slack, the better firm performance"—there must be a limit beyond which further accumulation of slack would hurt firm performance.

Second, our focus on CEO duality in SOEs and POEs, an approach similar to Ju and Zhao (2009), has forced us to ignore the rich diversity in the organizational landscape in China, which features a lot of firms with "hybrid" ownership such as foreign-owned firms and joint-stock firms with both public and private ownership elements. While adding a POE sample allows us to go beyond Peng et al.'s (2007) and Tan and Peng's (2003) all-SOE sample, the relationship between CEO duality and firm performance in "hybrid" firms remains to be explored in future research.

Finally, while this study, replicating earlier China work using new China data, represents a progress compared with earlier replication work that compares China data with US data, further progress may be made by replicating China research in other emerging economies, which may share some similarities in the institutional environment (Wright et al., 2005). For example, Acquah (2007) has recently replicated and extended earlier China work in a new setting—Ghana, Africa. Since so much of our research centers on the United States, using China as another anchor country against which future research can replicate, extend, support, and/or refute may make our research enterprise more globally grounded (Li & Peng, 2008; Peng et al., 2009; Quer et al., 2007).

## Conclusion

How do CEO duality and organizational slack affect the performance of firms with different ownership types in China? Our findings suggest that while there is a positive relationship between slack and performance, CEO duality negatively moderates this relationship in SOEs but positively in POEs. In conclusion, the implications for practitioners in China are straightforward: (1) Organizational slack is not necessarily bad. (2) CEO duality may be appropriate for POEs, but inappropriate for SOEs. Therefore, indiscriminant advice on whether CEO duality is good or bad for firm performance needs to be avoided.

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