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RESEARCH ARTICLE



## Ambiguity and conflict in pension policies implementation: evidence from China

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### ABSTRACT

While the literature generally acknowledges that target groups affect policy implementation, we argue that a more detailed investigation of the mechanisms and factors associated with such effect is necessary. Drawing on the Ambiguity-Conflict Model, we explore how target groups' perceived policy ambiguity and conflict relate to the implementation of Corporate Employee Pension (CEP) policies in China. Empirically, we utilize a unique sample of all firms listed on China's A-stock market from 2008 to 2014 and hypothesize that target groups' perceived policy ambiguity and conflict negatively associate with the implementation outcomes of the CEP policies in China. Our results confirm such a relationship and suggest that the implementation outcomes, from most favorable to least favorable, follow the order: Administrative Implementation, Political Implementation or Experimental Implementation, and Symbolic Implementation. Such results are robust to both state-owned and non-state-owned enterprises. Our research offers implications for both scholars and practitioners of pension policies in China.

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## Introduction

Target groups affect policy implementation.<sup>1</sup> Here, policy implementation can be broadly defined as the processes and outcomes of applying policy instruments by public and/or non-public actors based on the objectives set forth in prior policy decisions to resolve policy problems, while target groups are the populations whose behavior is designed or expected to be modified by such instruments.<sup>2</sup> Conventionally, two theoretical lenses are debated in the literature regarding conceptualizing policy implementation, namely, 'top-down' and 'bottom-up'.<sup>3</sup> From a top-down perspective, policy implementation requires alignment between the goals of policymakers and the actions of implementation agencies and target groups.<sup>4</sup> In this case, effective policy implementation is a function of clearly stated policy intentions as well as control over implementing agencies and resources.<sup>5</sup> From a bottom-up perspective, the interactions between relevant policy actors (e.g. policymakers,

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implementers, and target groups) is key to policy implementation, and accordingly disconnection among these actors may jeopardize the effectiveness of policy implementation.<sup>6</sup> As such, intra- and inter-system communication<sup>7</sup> and a shared understanding of policy intention among relevant actors jointly affect the processes and outcomes of policy implementation.

Though the two perspectives contribute to the implementation literature, a synthetic approach is preferable to comprehend the nuances of policy implementation.<sup>8</sup> Put differently, the aforementioned 'top-down' and 'bottom-up' approaches can in fact be complementary rather than contradictory in terms of informing scholarly endeavors.<sup>9</sup> While synthesizing the two approaches, however, caution is necessary regarding their common assumption about communication between relevant policy actors. Both approaches assume that goals and direction can be clearly stated and communicated among policymakers, implementers, and target groups, whereas in reality such conditions are rarely satisfied. This can be attributed to the inherent untidiness and disorder within governmental communication in which unclear and sometimes contradictory goals and direction routinely emerge.<sup>10</sup> Regarding this, Matland<sup>11</sup> proposes a synthetic model, the Ambiguity-Conflict Model (ACM), which argues that ambiguity and conflict play a central role in policy implementation. Specifically, ACM posits varying effects of ambiguity and conflict on policy implementation, and theorizes four paradigmatic implementation approaches based on the different levels of policy ambiguity and conflict (i.e. administrative implementation; political implementation; symbolic implementation; and experimental implementation). This is particularly serviceable in disentangling the perceived ambiguity and conflict of target groups, and by extension their impact on policy implementation.

The extant literature, however, remains divided concerning the impact of target groups on policy implementation in China. On the one hand, several studies find that a neglect of target population exists in Chinese policy implementation. For instance, O'Brien and Li<sup>12</sup> argue that local officials in China tend to enforce policies related to their performance evaluation exclusively, and accordingly ignore the demands of target groups. In a similar vein, Cai<sup>13</sup> identifies the priority of image-building projects in state agents' policy implementation, and likewise discusses the notion of an 'Irresponsible State' where neglect of target groups and waste of public resources are common. On the other hand, some studies argue that policy implementation in China is in fact characterized by responsiveness to target groups. For instance, Heilmann<sup>14</sup> notes that the logic behind the Chinese policy process lies in 'maximum tinkering under uncertainty' and 'extensive policy experimentation under the shadow of hierarchy,' and that responding to local needs is the mechanism ensuring implementation effectiveness and political stability in China. Additionally, studies also highlight that interaction between government agencies and target groups, particularly at the local level, contributes to effective policy implementation in China.<sup>15</sup> Despite these contributions, there remains a need for a careful investigation of the impact of target groups on Chinese policy implementation to inform policy action at multiple scales.

The current study adds to the Chinese policy governance literature by analyzing how perceived policy ambiguity and conflict of target groups relate to the implementation outcomes of CEP policies in China. It contributes to clarifying the role of target

groups in Chinese policy implementation with new empirical evidence from the implementation of multiple policies, and by extension to a larger body of academic literature on social welfare and justice in China.<sup>16</sup> Specifically, the analysis employs a unified analytical framework (the ACM) and a unique sample focusing on multiple policies to assess and compare the impact of different target groups based on a variety of dimensions. To this end, the first section of the analysis provides an overview of scholarly efforts around the impact of target groups on policy implementation. The ACM is discussed next, with hypotheses developed addressing the different levels of policy ambiguity and conflict and their relationship with the implementation outcomes of the CEP policies. Following a description of the sample and the methodology utilized in the analysis, the hypotheses are tested through a series of mixed regressions. The analysis concludes with a discussion of the contributions, limitations, and implications for research and practice.

### The ambiguity-conflict model and target groups

Ambiguity can be broadly defined as ‘the state of having many ways of thinking about the same circumstances or phenomena.’<sup>17</sup> In policy studies, ambiguity can be detected in three aspects, including ‘problem preferences, unclear technology, and fluid participation.’<sup>18</sup> In particular, ambiguity in policy goals and means affects the perceptions of policy actors, and consequently increases the power of contextual factors in altering policy implementation outcomes. Policy conflict arises when a multitude of actors consider themselves as direct stakeholders in a policy but have inconsistent understandings of the policy.<sup>19</sup> These inconsistent understandings, therefore, hinder the search for a unified goal, and by extension the search for generally agreed-upon policy solutions. Even with a generally accepted policy goal, reaching an agreement on actions (means) could be difficult. In this case, policy conflict leads to barriers to favorable implementation outcomes as well.<sup>20</sup>

As for the aforementioned four paradigmatic implementation approaches, according to the ACM, low policy ambiguity and low policy conflict characterize *Administrative Implementation* in which resources affect outcomes; low policy ambiguity and high policy conflict signal *Political Implementation* in which power decides outcomes. Along this line, high policy ambiguity and low policy conflict mark *Experimental Implementation* where outcomes are dependent on contextual conditions, and high policy ambiguity and high policy conflict define *Symbolic Implementation* where outcomes are dominated by local-level coalition strength. In this case, the policy attributes perceived by policy actors—ambiguity and conflict—jointly define implementation approaches, and the four determining factors (resources, power, contextual conditions, and local-level coalition strength), along with these approaches, shape the outcome of policy implementation.

Owing to its utility in disentangling policy ambiguity and conflict in various scenarios, the ACM has been applied to a multitude of policy studies with examples ranging from power dynamics in local government,<sup>21</sup> to the interaction among parties, government, and interest groups,<sup>22</sup> to effectiveness of policy implementation.<sup>23</sup> The ACM has been utilized in the Chinese context as well; for instance, scholars working

with the ACM have found that ambiguity and conflict within China’s policymaking can partly explain the implementation gap at the local level, where local officials tend to view the central government’s policies as symbolic and choose a symbolic implementation approach.<sup>24</sup> Though research using the ACM has been compiled in the literature to some extent, the current analysis contributes in the following ways. First, while previous studies tend to rely on authors’ subjective judgment and/or small N surveys and interviews, we utilize a large sample of policy actor behavior to develop a relatively more objective measure of perceived policy ambiguity and conflict. Second, while the extant literature normally centers on a single policy at one point in time, we focus on multiple policies simultaneously using longitudinal data. The comparative design across different policies and policy actors in a temporally dynamic setting enhances the robustness of our results.

While the ACM takes into account a multitude of policy actors, including policy-makers, implementers, and target groups, we focus on target groups in this analysis for the following reasons. First, in order to maintain the depth and scope of our analysis, we sacrifice a more ambitious investigation into the effects of other actors. Second, target groups themselves are key to a policy process as their constructions (agree or disagree) affect the policy process.<sup>25</sup> Further, in addition to target groups, we also investigate factors proposed by the ACM that could potentially affect implementation outcomes (i.e. resources, power, contextual conditions, and local-level coalition strength), so that a more comprehensive understanding can be achieved. Doing so, we employ a two-by-two matrix presented by the ACM regarding the levels of ambiguity and conflict to position a policy and analyze its implementation outcomes based on the attributes of its target groups (see Figure 1). Specifically, for a given policy, if the target groups are homogeneous, the degree of perceived policy ambiguity and conflict would be the same across different target groups. In this case, the policy

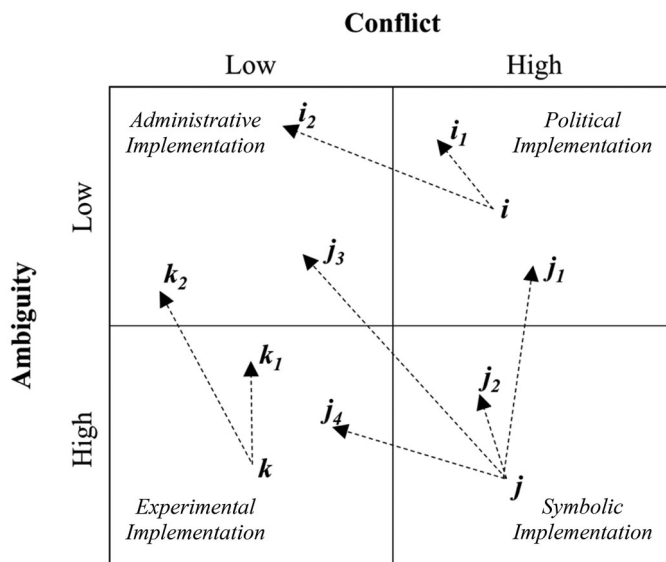


Figure 1. Ambiguity-conflict matrix. Source: Matland.<sup>34</sup>

will be located in the same position in the matrix, and the implementation of this policy would thus lead to the same outcome for different target groups. If the target groups are heterogeneous, however, the degree of perceived policy ambiguity and conflict would vary across different target groups. The policy consequently would be placed in a different position in the matrix based on the variances across the different target groups, leading to the following scenarios (hypotheses):

First, the level of conflict remains the same while the level of ambiguity varies. Here, the level of ambiguity would determine the implementation outcome. Specifically, a higher level of ambiguity indicates the existence of multiple understandings of the policy goals and/or means across different policy actors. In this case, these policy actors will selectively employ implementation approaches that best fit their interests. In a similar manner, a lower level of ambiguity may suggest a shared understanding of the policy goals and/or means across different policy actors, and accordingly their implementation approaches may align. Therefore, the various understandings of target groups are thought to influence the implementation outcomes. In light of this, we expect the following:

**H1:** The level of perceived policy ambiguity is negatively associated with implementation outcomes, controlling for the level of perceived policy conflict.

Second, the level of ambiguity remains the same while the level of conflict varies. Here, the level of conflict affects the implementation outcome. Specifically, a higher level of conflict signals two potential scenarios. First, the higher level of conflict might be a result of disagreement on the policy goals, where a generally accepted goal cannot be negotiated. A consistent implementation approach, therefore, cannot be achieved. Second, assuming there is an agreement on policy goals, a disagreement on policy means may also lead to contradictory implementation approaches. This can be attributed to the potential loss or redistribution of interest sensed by target groups, and their willingness to comply with the implementation approach might thus be discounted as well. Regarding this, we hypothesize that:

**H2:** The level of perceived policy conflict is negatively associated with implementation outcomes, controlling for the level of perceived policy ambiguity.

Third, the levels of ambiguity and conflict vary simultaneously. In this case, implementation strategy would be the main determinant of the implementation outcome. In the Ambiguity-Conflict matrix, the relative levels of policy ambiguity and conflict jointly position an implementation strategy. For instance, if a policy is placed in the *Administrative Implementation* cell (low ambiguity and low conflict), then the target groups would have an understanding of the policy that is consistent with that of the policymakers and implementers. In this case, no potential loss of interest will be sensed and thus the implementation outcome will be most favorable. Likewise, if a policy is placed in the *Symbolic Implementation* cell (high ambiguity and high conflict), the inconsistent understanding among policy actors and the sensed potential loss of interest would lead to the least favorable implementation outcome. Lastly, if a policy is placed in the *Political Implementation* cell (low ambiguity and high conflict) or the *Experimental Implementation* cell (high ambiguity and low conflict), the relative favorability of the implementation outcome would then be situated somewhere between

*Administrative Implementation* and *Symbolic Implementation*. As such, we hypothesize that:

**H3:** The implementation outcomes, from most favorable to least favorable, follow the order: Administrative Implementation, Political Implementation or Experimental Implementation, then Symbolic Implementation.

In addition, according to the ACM, ambiguity can, to some extent, mitigate the effect of policy conflict on the implementation outcome. Here, when the level of policy ambiguity is high, policy actors will have various understandings of the policy goals or means, and they will thus interpret the policy differently. This may facilitate the introduction of the policy as the conflict in the formulation process will be relatively diffused and, by extension, alleviated.<sup>26</sup> In contrast, if the policy is clearly articulated, policy actors may attempt to hinder the realization of the policy since it is potentially in conflict with their interests. Also, bounded rationality at both the individual and organizational level indicates that a policy cannot possess perfect clarity, yet despite that, the political process requires rapid response from policy formulators.<sup>27</sup> A high level of policy ambiguity, therefore, enables trial and error in the implementation process, which further allows policy actors to solve practical problems.

**H4:** Policy ambiguity can lower the impact of policy conflict on policy implementation outcomes.

## Implementation of China's corporate employee pension (CEP) policies

### *The mandatory basic pension (BP) policy*

The mandatory basic pension (BP) policy involves a series of policy actors, including the central government, local governments, firms, and corporate employees. Though the policy is clear in text, various understandings of the policy goals and means across different actors, as well as their perceived welfare change associated with the implementation, indicate that the BP policy has inherent ambiguity and conflict. First, ambiguity exists in the Chinese central government's policy goals and means. According to the Social Insurance Law, paying for social insurance based on the prescribed base and rate is an obligation for both firms and corporate employees. The central government, however, only provides general principles, leaving decisions on specific payment bases and rates, as well as the collection of payments, to the local governments. Second, the implementation of the policy by local governments presents inherent conflict. It is the responsibility of the local governments to make sure that the pensions are paid in full and on time. The local governments, therefore, have an incentive to execute the payment collection strictly. This, however, leads to an increase in local firms' labor costs, and by extension a reduction in their profits. Decreased profits indicate a weaker tax base, limited employment and economic growth, as well as less attractiveness to external investment. Therefore, local governments also have an incentive *not* to execute the payment collection strictly. Further, the vertical transfer payment from the central government, along with the horizontal transfer payment within each province, weakens the incentive for local governments to execute the payment collection strictly as well.

Additionally, regarding policy conflict, the ambiguity in the central government's policy grants a certain level of discretion to the local governments to set the payment base and rate based on local conditions, which is supposed to help alleviate the conflicts that would have been generated by a nationwide one-size-fits-all policy. Such ambiguity, however, is not able to erase the internal conflict in local governments' implementation of the BP policy. Next, compliance with the BP policy brings inherent conflict to firms and employees as well. Paying for the BP in accordance with regulations increases costs for firms. The disadvantages are particularly outstanding when the economy is in an unfavorable situation and/or external competition is high. Compliance with the BP policy, however, helps to improve firms' reputation, to attract quality human capital, to increase political capital, and to gain governmental support. For corporate employees, on the one hand, contributions to the BP add to their future pensions. On the other hand, the payments might also indicate a decrease in their immediate income, as well as a potential risk of unemployment due to the increase in their employers' labor costs, especially for those with relatively low levels of human capital.

Target groups involved in the BP policy include firms and employees. We choose firms for investigation for the following reasons. First, as noted previously, the scope of our analysis prevents a more ambitious articulation of the dynamics among employees. Second, firms outweigh employees on the scales of payment, where firms pay at the rate of 20% and employees pay at 8%. Further, in the implementation process, especially at the decision-making phase, the strategic adjustment in payment base is made by firms instead of employees, particularly given the more influential position of the former in the policy process. As such, we focus our analysis on firms. Previous studies see all firms as a whole when investigating ambiguity and conflict in the BP policy, whereas firms at the micro level might vary considerably, particularly in their levels of perceived policy ambiguity and conflict. For instance, some firms favor the BP policy and view it as an effective mode of compensation. In this case, they perceive a low level of ambiguity. Some firms, on the other hand, may view the BP policy as a type of tax and merely focus on the increased labor costs. Those firms thus perceive a high level of ambiguity. Likewise, firms with a relatively flexible policy on recruitment and payroll can strategically reduce the labor costs on items like salaries to offset the impact of the mandatory BP policy, and they may hence perceive a low level of policy conflict. Firms with less flexible policies, due to factors including industrial standards, market, laws and regulations, and wage rigidity, may not be able to offset the impact of the mandatory BP policy. As a result, they may have to bear the higher labor costs caused by the BP policy and accordingly perceive a high level of policy conflict. As such, the same BP policy can be placed in different positions in the two-by-two matrix based on the level of ambiguity and conflict. As shown in Figure 1, initially assuming all firms are homogeneous, if the BP policy is first characterized as having low policy ambiguity and high policy conflict ( $i$ ), the implementation outcomes would be the same for all firms. If we instead assume that all firms are heterogeneous, meaning that they can perceive different levels of policy ambiguity and conflict, the initial position of the BP policy will thus be shifted, for instance, to  $i_1$  or  $i_2$ , indicating that the implementation strategy would remain the same or move from *political implementation* to



*administrative implementation*, respectively. Similarly, if the policy is initially described as having high policy ambiguity and high policy conflict (*j*) (*symbolic implementation*), when we assume heterogeneity in firms, *j* could thus be shifted to *j*<sub>1</sub>, *j*<sub>2</sub>, *j*<sub>3</sub>, or *j*<sub>4</sub>, and the implementation outcomes will vary accordingly as well.

### **The non-mandatory employee annuity (EA) policy**

The non-mandatory employee annuity (EA) policy, similar to the basic pension policy, involves a series of policy actors including the central government, local governments, firms, and corporate employees, and likewise possesses inherent policy ambiguity and conflict. First, policy ambiguity exists in the policy means of the central government. The issue of the Trial Measures for Enterprise Annuity (TMFEA) and Measures for the Management of Enterprise Annuity Funds by the Chinese Ministry of Human Resources and Social Security (MOHRSS) in 2004 signaled the formal establishment of China's basic institutional framework for enterprise annuity. According to the TMFEA, unlike the mandatory participation in BP, participation in EA is voluntary for firms and their employees (and is in addition to their mandatory participation in the BP program). In this case, the level of perceived policy ambiguity is high. The recent implementation of, and frequent changes in, the tax exemption policies for firms participating in EA further exacerbates EA's policy ambiguity. It was not until 2008 that the Ministry of Finance first announced its statewide unified tax exemption rate for firms participating in EA, which was five years after the issue of the two regulations; also, the rate was adjusted again in late 2009. Initially, the policy only applied to corporate income tax but not to individual income tax, but in December 2009, the State Administration of Taxation announced exemption policies for individual income tax as well.

Discrepancies also exist among the policies issued by different departments of the central government. According to the TMFEA, an individual firm's payment for EA should be no more than one-twelfth (8.3%) of its last year's total wages. The 2008 regulation from the Ministry of Finance, however, sets the tax exemption rate at 4%<sup>28</sup> for firms paying for EA, which presents a considerable gap between a firm's payment for EA and the tax exemption it can get from paying for EA. Second, discrepancies exist between the policies issued by the central government and by local governments. Due to the absence of a statewide policy from 2004 to 2008, 31 of the 34 provincial governments in China announced their own tax exemption policies, with discount rates ranging from 4% to 12.5%. The 2008 announcement of the statewide exemption policy from the Ministry of Finance, therefore, required adjustments from local governments. Adopting the central government's exemption policy leads to a decrease in local governments' income, which then causes a conflict of interest.<sup>29</sup> Further, similar to the BP policy, compliance with the EA policy also generates inherent conflict for firms and employees. The difference here is that compliance with EA is managerially more valuable for firms than with BP (e.g. human resources building and firm reputation improvement), and firms' perceived conflict would thus be relatively lower.

Target groups involved in the EA policy also include firms and employees. Considering the scope of our analysis, we focus on firms which have a predominant position in the decision to participate in EA. Further, looking at the micro-level variance among individual firms' perceived levels of policy ambiguity and conflict enables us to address the gap in the literature, where firms are commonly viewed as a group, and their internal dynamics are thus understudied. Specifically, some firms agree with the human resource management (HRM) function of EA and see it as an effective strategy to attract, develop, motivate, and retain human resources and to avoid taxes. In this case, they perceive a low level of policy ambiguity. Some firms, however, see EA as an extension of BP, arguing that it is a shift of the burden of pension provision to firms and that it does nothing but increase the labor costs for firms. They therefore perceive a high level of ambiguity.

As for the policy conflict, some firms believe that simply relying on salaries would not satisfy their ambitions in HRM and they need better arrangements for improvement. EA thus would be an ideal fulfillment of such needs. Firms with those needs thus perceive a low level of policy conflict. Some firms, especially those with limited financial strength, may have a hard time maintaining a regular payroll, let alone participating in EA. For these firms, their perceived level of policy conflict would be high. In light of this, firms can propose different positions for EA policy in the Ambiguity-Conflict matrix. As shown in Figure 1, assuming all firms are homogeneous at first, if initially the EA policy is characterized as possessing high policy ambiguity and low policy conflict ( $k$ ), the implementation outcomes would be the same for all firms. If we instead assume that all firms are heterogeneous, firms would then perceive different levels of policy ambiguity and conflict, and the initial position of the EA policy will thus be shifted, for instance, to  $k_1$  or  $k_2$ , respectively, representing different implementation outcomes. Likewise, if the policy is initially constructed as having high policy ambiguity and high policy conflict ( $j$ ), when we assume variance across firms,  $j$  could thus be shifted to  $j_1$ ,  $j_2$ ,  $j_3$ , or  $j_4$ , respectively, and so the implementation outcomes will change as well.

## Data and methods

### Variables

Our dependent variables include: (1) firms' contribution rate to BP, which is the ratio of the current year's amount paid for BP to the amount of last year's total wage. A higher contribution rate to BP indicates a more favorable implementation outcome of the BP policy. According to China's Accounting Standards for Enterprises, the total wage in our analysis includes wages, bonus, allowance, and benefits. Here, the calculated contribution rates for some firms may exceed the rate set by the BP policy due to the fact that some firms may count their payment from previous years as the amount paid for the current year. Generally, the contribution rate cannot be more than 1. Calculated rates greater than 1 would thus be coded as missing values. (2) Participation in EA is measured with a dichotomous variable (coded '0' for no participation, '1' for participation). The more firms participating in EA, the more favorable the implementation of the EA policy is. A firm's participation is coded based on the

presence of terms such as 'enterprise annuity,' 'supplementary pension,' or 'supplementary retirement benefits' under the item of employee compensation payable in its annual report.

Explanatory variables include: (1) Perceived policy ambiguity, based on the median of firms' actual contribution rates to the housing benefits program; we code the policy ambiguity of both the BP policy and the EA policy into two categories. High ambiguity (coded as '1') if a firm's actual contribution rate to the housing benefits program is lower than the median, and low ambiguity (coded as '0') if a firm's actual contribution rate to the housing benefits program is higher than or equal to the median. Here, the actual contribution rate to the housing benefits program is defined as the ratio of the amount paid for the housing benefits program in the current year to the amount of the firm's total wage in the last year. The higher the contribution rate is, the lower the level of a firm's perceived policy ambiguity.

Measuring the level of perceived policy ambiguity can be challenging. One way is to rely on direct measurements. For instance, Howard, Wrobel, and Nitta<sup>30</sup> ask interviewees and survey participants to rate their understanding of the policy goals and purposes on a scale of 1 to 10 to measure their perceived level of policy ambiguity. An alternative way is to utilize a similar policy (Policy B) to the policy of interest (Policy A). Instead of directly measuring the perceived policy ambiguity of Policy A, we can measure the behavior of Policy B implementation. According to the principle of revealed preferences, behavior may better reveal individuals' preferences.<sup>31</sup> As such, we take the second approach.

Specifically, we operationalize levels of perceived ambiguity in both the BP policy and the EA policy with a behavioral measurement from the implementation of the housing benefits program. Similar to the BP policy, participation in the housing benefits program is mandatory in China. The central government sets a minimum level of contribution rate. If firms do not favor the program, their contribution rates will thus be lower than the predetermined rate, with similar strategies used to avoid contributions to BP. If they agree with the program, however, they will then fulfill their obligations and their actual contribution rates would therefore go up. Similar to the EA policy, firms can also choose to pay at a higher rate than the prescribed one (there is no maximum level). The government only sets a maximum level for the tax exemption rate, indicating that firms can contribute at a higher level as long as they are willing to do so. In this case, we use the actual contribution rate to the housing benefits program to measure the perceived policy ambiguity in our study. The higher a firm's contribution rate to the housing benefits program is, the more the firm favors the CEP policies (both BP and EA), because such firms tend to view the CEP policies as an effective element in the compensation structure. In this case, they will perceive less ambiguity in the CEP policies and be more likely to comply with these policies.

(2) Perceived policy conflict. For the BP policy, the higher the average payroll spending of a firm is, the higher the level of perceived policy conflict will be. Based on the median of all firms' average payroll spending, we code the policy conflict in the BP policy into two categories: high conflict (coded as '1') if a firm's average payroll spending is higher than the median, and low conflict (coded as '0') if a firm's

average payroll spending is lower than the median. For the EA policy, however, the higher the average payroll spending of a firm is, the lower the level of perceived policy conflict will be. Based on the median of all firms' average payroll spending, we code the policy conflict in the EA policy into two categories: high conflict (coded as '1') if a firm's average payroll spending is lower than the median, and low conflict (coded as '0') if a firm's average payroll spending is higher than or equal to the median. The average payroll spending of a firm in our study is constructed as the logged value of its total amount of payroll spending (including wages, bonuses, allowances, and benefits) in the current year, divided by the number of employees.

Measuring level of perceived policy conflict can be challenging as well. Based on the aforementioned reasons, we use the level of average payroll spending to gauge the degree of perceived policy conflict. The inversion in the coding of the two policies here can be attributed to the difference in their respective natures. Specifically, the BP policy is similar in nature to a tax, indicating its substitutional relationship with wages. The EA policy, however, is voluntary, and thus is complementary to wages. The mandatory nature of the BP policy requires the contribution of all firms regardless of their willingness and/or capabilities. In addition, all contributions by firms go directly to the pool administered by the government, so their employees may not be able to detect such contributions. In this case, firms tend to see contributions to BP as a tax or a cost. The higher the average payroll spending is, the higher the cost of complying with the BP policy will be, and thus a higher level of the perceived policy conflict will emerge. In contrast, participation in EA is voluntary. Firms that sense a high level of labor cost can refuse to participate, and vice versa for those that sense a relatively low level of labor cost. In general, firms with a higher level of average payroll spending are those with a higher level of financial strength. Those firms are more likely to participate in EA, and accordingly perceive a lower level of policy conflict (Appendix 1).

(3) Types of implementation approaches. We code types of implementation approaches as *Administrative Implementation* if the perceived low ambiguity and low conflict are '1's and the rest are '0's, *Political Implementation* if the perceived low ambiguity and high conflict are '1's and the rest are '0's, *Experimental Implementation* if the perceived high ambiguity and low conflict are '1's and the rest are '0's, and lastly *Symbolic Implementation* if the perceived high ambiguity and high conflict are '1's and the rest are '0's.

Control variables include: (1) Ownership (coded '1' if a firm is state-owned, and coded '0' otherwise). (2) Effective tax rate, the ratio of the tax paid by a firm to its pre-tax profits. (3) In terms of factors related to a firm's business performance, we control for return on assets (ROA), price-earnings (PE) ratio, sales-to-cash-flow ratio (safety), and debt-to-total-assets ratio. We also control for capital intensity (measured by the ratio of a firm's total assets to its total operating revenue). In addition, we control for assets (measured by the logged value of a firm's total assets). (4) Factors related to human resources. Number of employees, which is measured by the logged value of a firm's number of employees, represents the power of unions. (5) A firm's location (the province where the firm was registered).

## Data

The sample utilized in this study draws from all the firms listed on China's A-stock market from 2008 to 2014. The data is from the China Stock Market Financial Database – Annual Report (CSMAR).<sup>32</sup> The data includes the following information from 2007 to 2014: amount paid for BP, amount paid for EA, amount paid for the housing benefits program, actual controller, effective tax rate, total wage, number of employees, return on assets (ROA), price-earnings (PE) ratio, sales-to-cash-flow ratio, debt-to-total-assets ratio, capital intensity, total assets, and province of registration. Here, as calculation of the contribution rates to BP and to the housing benefits program requires the information from the previous year, the descriptive analysis and the regressions start from 2008. For further details about their implementation outcomes, please see Appendices 2–5.

## Methods

In examining the implementation outcomes of the BP policy, since the dependent variable—the actual contribution rate—is continuous, we employ OLS regression models. As for the EA policy, the dichotomous nature of our dependent variable—participation in EA—necessitates the use of logit regression models. Ideally a panel data analysis would be conducted given the nature of our data, but the differential operation in panel regression hinders us from doing so as it removes the observations that do not change over two consecutive periods. In our case, variables including policy ambiguity, policy conflict, and ownership remain constant across different periods, and participation in EA rarely changes over time. After carefully consulting the literature,<sup>33</sup> we use OLS models and logit models instead of panel data approaches.

In the following analysis, we first examine how high policy ambiguity and high policy conflict relates to the implementation outcomes of the CEP policies. We then bring in an interaction term to investigate the moderating effect of high policy ambiguity on the role of high policy conflict in affecting the implementation outcomes of the CEP policies. Next, using the Symbolic Implementation as a reference group, we analyze the impact of the other three types of implementation approaches on policy implementation outcomes. Lastly, we replicate the aforementioned steps on two subsamples, the state-owned enterprises and the non-state-owned enterprises, to gauge the robustness of the findings.

## Findings and analysis

### *Ambiguity, conflict, and implementation of the CEP policies*

Table 1 presents the regression results of the effect of policy ambiguity and policy conflict on the implementation outcomes of the CEP policies. Columns (1) and (3) show the direct effect of policy ambiguity and policy conflict, while columns (2) and (4) display the results after adding the interaction term. The predicted negative relationships between high policy ambiguity and high policy conflict, respectively, with policy implementation outcomes are verified, suggesting the confirmation of H1 and H2. As shown in Table 1, in all four regressions, high policy ambiguity and high policy conflict are negatively correlated with the CEP policies implementation outcomes, and these relationships are statistically

**Table 1.** Regression results of the effects of policy ambiguity & policy conflict on CEP implementation outcomes.

Variables	Basic pension (BP)		Employee annuity	
	(1)	(2)	(3)	(4)
High Ambiguity	-0.0599*** (0.00272)	-0.0679*** (0.00356)	-0.0744*** (0.0110)	-0.0939*** (0.0118)
High Conflict	-0.0187*** (0.00493)	-0.0265*** (0.00601)	-0.0555*** (0.00912)	-0.0720*** (0.00892)
High Ambiguity × High Conflict		0.0147*** (0.00433)		0.0481*** (0.00883)
Ownership	0.0138*** (0.00219)	0.0138*** (0.00222)	0.186*** (0.0127)	0.185*** (0.0131)
Effective Tax Rate	0.00121 (0.00226)	0.000696 (0.00225)	-0.0168 (0.0422)	-0.0156 (0.0421)
ROA(B)	0.0397** (0.0145)	0.0391** (0.0141)	-0.123** (0.0568)	-0.123** (0.0557)
Sales-to-Cash-Flow Ratio	-0.00207 (0.00157)	-0.00201 (0.00157)	-0.0191 (0.0212)	-0.0189 (0.0214)
Capital Intensity	3.34e-05 (5.79e-05)	3.05e-05 (5.84e-05)	-0.000145 (0.000719)	-0.000146 (0.000733)
Debt-to-Total-Assets Ratio	0.0159*** (0.00245)	0.0156*** (0.00251)	-0.0137 (0.0366)	-0.0125 (0.0348)
Price-Earnings Ratio	-3.63e-06*** (9.22e-07)	-3.78e-06*** (8.93e-07)	3.72e-06 (6.79e-06)	3.78e-06 (6.66e-06)
Total Assets	-0.00503** (0.00210)	-0.00465** (0.00206)	0.0464*** (0.0123)	0.0458*** (0.0123)
Number of Employees	0.00634** (0.00226)	0.00617** (0.00225)	0.00102 (0.00862)	0.00112 (0.00864)
Province of Registration	Control	Control	Control	Control
Constants	0.220*** (0.0315)	0.219*** (0.0311)		
N	9,281	9,281	11,217	11,217
R <sup>2</sup>	0.343	0.345		

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . Column (3) and (4) represents the average marginal effects from the logit regression. In parentheses are robust standard errors.

significant. This shows that compared to low ambiguity and low conflict, respectively, high ambiguity and high conflict have a negative association with firms' actual contribution rates to BP as well as their participation rates in EA. H4, which suggests that policy ambiguity moderates the impact of policy conflict on implementation outcomes, is also confirmed. Specifically, as shown in columns (2) and (4), the interaction terms are significantly positively related to the implementation outcomes. Since high policy ambiguity is negatively correlated with the implementation outcomes, it can be expected that high policy ambiguity attenuates the negative relationship between high policy conflict and the implementation outcomes of the CEP policies.

Table 2 presents the regression results of the relationship between the other three types of implementation approaches and the CEP policies implementation outcomes using the Symbolic Implementation as a reference group. H3, which suggests that the implementation from favorable to less favorable follows the order: Administrative Implementation, Political Implementation or Experimental Implementation, Symbolic Implementation, is confirmed. As shown in Table 2, Administrative Implementation, Political Implementation, and Experimental Implementation are positively correlated with the implementation outcomes of both the BP policy and the EA policy, indicating that all three types of implementation approach contribute to better implementation outcomes than Symbolic Implementation does. Specifically, from the size of the regression coefficients we can observe that

**Table 2.** Regression results of the effects of implementation approaches on CEP implementation outcomes.

Variable	(1) Actual Contribution Rate to BP	(2) Actual Participation Rate in EA
Experimental Implementation	0.0118*** (0.00387)	0.0208** (0.00926)
Political Implementation	0.0532*** (0.00357)	0.0416*** (0.0114)
Administrative Implementation	0.0797*** (0.00592)	0.123*** (0.0171)
Ownership	0.0138*** (0.00222)	0.185*** (0.0131)
Effective Tax Rate	0.000696 (0.00796)	-0.0156 (0.0421)
ROA(B)	0.0391** (0.0141)	-0.123** (0.0557)
Sales-to-Cash-Flow Ratio	-0.00201 (0.00157)	-0.0189 (0.0214)
Capital Intensity	3.05e-05 (5.84e-05)	-0.000146 (0.000733)
Debt-to-Total-Assets Ratio	0.0156*** (0.00251)	-0.0125 (0.0348)
Price-Earnings Ratio	-3.78e-06*** (8.93e-07)	3.78e-06 (6.66e-06)
Total Assets	-0.00465** (0.00206)	0.0458*** (0.0123)
Number of Employees	0.00617** (0.00225)	0.00112 (0.00864)
Province of Registration	Control	Control
Constants	0.131*** (0.0318)	
N	9,281	11,217
R <sup>2</sup>	0.345	-
Coefficient Tests		
Experimental = Administrative	363.47***	57.95***
Political = Administrative	19.39***	58.69***
Experimental = Political	75.31***	3.25*

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$  Column (2) represents the average marginal effects from the logit regression. In parentheses are robust standard errors.

implementation outcomes from favorable to less favorable follow the order: Administrative Implementation, Political Implementation or Experimental Implementation. Such results are further confirmed by the coefficients test, indicating that those coefficients are significantly different. As such, as suggested by our hypothesis, the implementation outcomes from favorable to least favorable follow the order: Administrative Implementation, Political Implementation or Experimental Implementation, and Symbolic Implementation. The aforementioned regressions were also conducted on two subsamples, the state-owned enterprises and the non-state-owned enterprises, and the results suggest our findings hold for both types of enterprises (Appendices 6–7).

## Conclusion and discussion

Various understandings of policy goals and means across different target groups lead to discrepancies in their perceived levels of policy ambiguity and conflict. According to the ACM, implementation outcomes vary accordingly conditioning on such discrepancies. Drawing upon China's Corporate Employee Pension (CEP) policies, we examine the impact

of target groups' perceived level of policy ambiguity and policy conflict on implementation outcomes. China's CEP policies consist of the mandatory Basic Pension (BP) policy and the non-mandatory Employee Annuity (EA) policy, and the level of perceived policy ambiguity and policy conflict differs in these two policies. As the predominant target, firms are divided into two categories, state-owned and non-state-owned. The considerable variance at the micro level among firms contributes to their varied levels of policy ambiguity and conflict, and thus affects the CEP policies implementation. Sampling from all firms listed on China's A-stock market from 2008 to 2014, we examine the implementation outcomes. Specifically, the actual contribution rate to the BP policy and the actual participation rate in EA policy are employed as dependent variables to gauge implementation outcomes. Firms' actual contribution rates to the housing benefits program and average payroll spending are utilized as explanatory variables to measure firm-level heterogeneity, policy ambiguity, and policy conflict, as well as to construct the four types of implementation approaches (*Administrative Implementation, Political Implementation, Experimental Implementation, and Symbolic Implementation*). The results show that firms' perceived levels of policy ambiguity and policy conflict are negatively correlated with the policy implementation outcomes. The implementation outcomes from favorable to less favorable follow the order: *Administrative Implementation, Political Implementation or Experimental Implementation, Symbolic Implementation*. Such findings are applicable to both state-owned and non-state-owned firms.

In addition to validating the ACM in the Chinese context, we find that perceived level of policy ambiguity and policy conflict varies within the same target group, and it is such variance, rather than other objective policy attributes, that affect the implementation outcomes. This suggests that, during the implementation process, such variance should be recognized and implementation approaches should be designed and devised accordingly by policy implementers. In the policymaking process, policymakers should also recognize such variance and try to balance the level of policy conflict and the level of policy ambiguity. We also find that under the same measuring system, different policies can present different values. For instance, an indicator measuring levels of policy ambiguity (or policy conflict), may suggest high ambiguity (or high conflict) with high values, and may suggest high ambiguity (or high conflict) with low values. This requires policymakers and implementers to act differently upon different policies, rather than using a one-size-fits-all strategy for all policies.

Based on the ACM, we examine the variance in target groups' perceptions and articulate the mechanisms underlying the impact that target groups have on policy implementation. Drawing upon China's CEP policies, our findings align with the ACM. By employing objective measures as well as a research design utilizing a large longitudinal sample, our analysis supplements previous work in which small sample analysis and/or qualitative methods dominate. We also provide more robust findings by simultaneously focusing on two policies and two subsamples of the target group. As such, our analysis offers a new perspective on analyzing the BP policy and the EA policy, where a more in-depth understanding of firms' behavior can be developed, strengthening the theoretical basis for policy optimization. Such an analytical framework can be employed in the future to examine the impact of different policy actors, as well as to gauge the relationship among different sub-target groups.



## Notes

1. Exworthy and Powell, "Big Windows and Little Windows," 263–281; Sabatier, "An Advocacy Coalition Framework of Policy Change," 129–168; Schneider, Ingram, and DeLeon, "Democratic Policy Design," 105–149; Smith, "The Policy Implementation Process," 197–209.
2. Howlett, Ramesh, and Perl, *Studying Public Policy*; Van Meter and Van Horn, "The Policy Implementation Process," 445–488.
3. Barrett, "Implementation Studies," 249–262.
4. Sabatier and Mazmanian, "The Implementation of Public Policy," 538–560.
5. See note 3 above.
6. De Leon and de Leon, "What Ever Happened to Policy Implementation?" 467–492.
7. Goggin et al., *Implementation Theory and Practice*.
8. See note 3 above; Grantham, "How Networks Explain Unintended Policy," 851–870; Sabatier, "Top-Down and Bottom-Up Approaches to Implementation," 21–48.
9. Howlett, Ramesh, and Perl, *Studying Public Policy*.
10. Ibid.
11. Matland, "Synthesizing the Implementation Literature," 145–174.
12. O'Brien and Li, "Selective Policy Implementation," 167–186.
13. Cai, "Irresponsible State," 20–41.
14. Heilmann, "Maximum Tinkering under Uncertainty," 450.
15. Ahlers and Schubert, "Effective Policy Implementation in China," 372–405; Wang, "Adapting by Learning," 370–404; Zhu, "Target Groups' Views and Policy Implementation," 817–841.
16. Guo, "The Politics of Local Justice Expenditure," 374–394; Solinger, "Jennifer Pan, Welfare for Autocrats"; Zhu and Cao, "Decision-Making and Risk Sources," 95–110.
17. Feldman, *Order without Design*, 5.
18. Kingdon, *Agendas, Alternatives, and Public Policies*, 84.
19. See note 11 above, 156.
20. Howard, Wrobel, and Nitta, "Implementing Change in an Urban School District," 934–941.
21. Ellis, "Personalisation, Ambiguity and Conflict," 239–254.
22. Hordern, "An Unfinished Experiment," 248–265.
23. See note 20 above.
24. Ran, "Perverse Incentive Structure and Policy," 17–39.
25. Schneider, Ingram, and DeLeon, "Democratic Policy Design," 105–149.
26. Zahariadis, "Ambiguity and Multiple Streams."
27. See note 18 above.
28. This rate was later adjusted to 5% in 2009.
29. Guo and Ba, "Adopt or Not and Innovation Variation," 298–319.
30. See note 20 above, 936.
31. Samuelson, "Consumption Theory in Terms of Revealed," 243–253.
32. CSMAR: <http://cn.gtadata.com/#/index>
33. Yoshida and Horiba, "Determinants of Defined-Contribution Japanese Corporate," 33–47; Butrica and Smith, "401 (k) Participant Behavior in a Volatile Economy," 1–29.
34. Matland, "Synthesizing the Implementation Literature," 160.

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## Appendix 1

### Measurements of policy ambiguity and policy conflict

Variable		Measure
Policy ambiguity	High ambiguity	1 if a firm's actual contribution rate for the housing benefits program is lower than the median
	Low ambiguity	0 if a firm's actual contribution rate for the housing benefits program is higher than or equal to the median
Policy conflict	Basic pension (BP)	
	High Conflict	1 if a firm's average payroll spending is higher than or equal to the median
	Low Conflict	0 if a firm's average payroll spending is lower than the median
	Employee annuity (EA)	
	High Conflict	1 if a firm's average payroll spending is lower than the median
	Low Conflict	0 if a firm's average payroll spending is higher than or equal to the median

## Appendix 2

### Implementation outcomes of the ECA policies from 2008 to 2014.

Year	Actual contribution rate to basic pension (BP)	Actual participation rate in employee annuity (EA)
2008	15.93%	13.55%
2009	13.92%	16.50%
2010	14.60%	16.67%
2011	13.95%	17.35%
2012	13.08%	18.00%
2013	12.82%	17.63%
2014	12.35%	20.21%
Average	13.51%	17.40%

## Appendix 3

### Implementation of the CEP policies based on policy ambiguity and policy conflict.

	Low ambiguity	High ambiguity	Statistics	Low conflict	High conflict	Statistics
Actual contribution Rate to basic pension (BP)	17.12%	10.03%	51.9724***	14.37%	12.77%	10.4780***
Number of firms that participated in employee Annuity (EA)	624	1939	835.9012***	1928	889	460.6626***

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . Statistics for Actual Contribution Rate to BP is t value from t test. Number of Firms which Participated in EA is chi(2) of chi(2) test.

## Appendix 4

### Implementation outcomes of the CEP policies based on the ambiguity-conflict matrix.

	Basic pension (BP)		Employee annuity (EA)	
	N	Actual contribution rate	N	Actual participation rate
Symbolic implementation	2579	8.92%	3436	7.77%
Experimental implementation	2573	11.08%	3188	11.20%
Political implementation	3483	15.73%	2547	19.47%
Administrative implementation	2090	19.43%	4081	35.32%
chi2(3)		980.0370***		1100***

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

### Appendix 5

Implementation outcomes of the CEP policies by ownership.

	Basic pension (BP)		Employee annuity (EA)	
	State-owned	Non-state-owned	State-owned	Non-state-owned
Symbolic implementation	10.18%	8.50%	17.41%	4.37%
Experimental implementation	13.62%	10.10%	28.02%	4.84%
Political implementation	16.53%	14.00%	24.90%	8.71%
Administrative implementation	19.97%	18.29%	47.44%	9.48%
chi2(3)	266.3029***	671.1262***	406.1650***	55.8658***

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

### Appendix 6

Regression results of the effects of policy ambiguity & policy conflict on CEP implementation outcomes (by ownership).

	(1)	(2)	(3)	(4)
	State-owned	Non-state-owned	State-owned	Non-state-owned
Basic pension (BP)				
Ambiguity	-0.0595*** (0.00319)	-0.0593*** (0.00370)	-0.0616*** (0.00609)	-0.0729*** (0.00373)
Conflict	-0.0196*** (0.00623)	-0.0191*** (0.00495)	-0.0207** (0.00764)	-0.0364*** (0.00542)
Ambiguity × Conflict			0.00397 (0.00668)	0.0239*** (0.00511)
Employee annuity (EA)				
Ambiguity	-0.111*** (0.0225)	-0.0383*** (0.00426)	-0.144*** (0.0215)	-0.0389*** (0.00555)
Conflict	-0.110*** (0.0193)	-0.00992 (0.00639)	-0.130*** (0.0180)	-0.0107 (0.0103)
Ambiguity × Conflict			0.0794*** (0.0141)	0.00125 (0.00993)

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . Coefficients in EA are average marginal effects from the logit regression. In parentheses are robust standard errors. All regressions include control variables.

### Appendix 7

Regression results of the effects of implementation approaches on CEP implementation outcomes (by ownership).

Variables	Actual contribution rate to BP		Actual participation rate in EA	
	(1) State-owned	(2) Non-state-owned	(3) State-owned	(4) Non-state-owned
Experimental implementation	0.0167*** (0.00453)	0.0124** (0.00438)	0.0452** (0.0220)	0.00761 (0.00488)
Political implementation	0.0576*** (0.00295)	0.0489*** (0.00410)	0.0587** (0.0244)	0.0380*** (0.00939)
Administrative implementation	0.0783*** (0.00737)	0.0853*** (0.00485)	0.196*** (0.0355)	0.0530*** (0.00855)
Coefficients test				
Experimental = Administrative	102.28***	380.79***	43.03***	37.56***
Political = Administrative	7.34**	45.07***	49.67***	1.06
Experimental = Political	64.70***	44.82***	0.32	7.76***

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . Columns (3) and (4) represent the average marginal effects in logit regression. In parentheses are robust standard errors. All regressions include control variables.