

Confronting Pension Reform: Public Employees' Psychological Contract Breach, Negative Perception, Regret, and the Moderating Role of PSM

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Abstract

Although pension reform has been a global trend in the last couple of decades, public administration research has seldom addressed the issue of how targeted pension reforms affect civil servants. The goal of this study is to conceptualize pension reform as the breach of the psychological contract between the government and civil servants and to understand whether it leads to the experience of regret in civil servants over choosing a government career. In doing so, this study also explores the possible role of public service motivation (PSM) in moderating the experience of regret elicited by psychological contract breach as well as the negative perception of the pension reform. The analysis of the data collected from 944 Taiwanese public employees shows that (i) both psychological contract breach and negative perception trigger regret and (ii) PSM strengthens the impacts of psychological contract breach and the negative perception of the pension reform. The findings have critical implications for both practitioners handling pension reforms and researchers interested in building a theory of PSM.

Keywords

pension reform, personnel reform, psychological contract, regret, public service motivation

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Introduction

In the current economic climate, most countries pursue an aggressive policy of austerity. Some commentators already christened this move toward the lean state and retrenchment on all fronts as “perma-austerity” (Dickinson et al., 2019). In line with this, governments around the world sought to roll back many welfare and social assistance programs, citing “self-reliance” and “resilience” (Hintze, 2020; Panda, 2020). Pension reforms, driven by population aging, have swept countries around the world. Pension reform in general intends to reduce fiscal burden, improve labor market efficiency, and generate higher savings (Asher, 2000). Therefore, the bulk of research focuses on economic and political impacts of the reform, especially cost-benefit analysis associated with the proposed arrangements as well as the political repercussions (Asher, 2000; Asher & Deepa, 2004; Lee & Jung, 2018; Palacios & Whitehouse, 2006; Sakamoto, 2011). Some scholars investigate citizens’ attitudes toward pension reform (Calzada & del Pino, 2008; Fernández & Jaime-Castillo, 2012; Naumann, 2017).

Public employees are rarely immune from the global trend of pension reform. Although the content of reform varies across countries, some commonalities do exist: public employees are forced to face significant pension cuts as well as delayed retirement. This can trigger employees’ psychological contract breach (Coyle-Shapiro & Kessler, 2002; Robinson, 1996), a concept that captures whether employees believe that the employer has provided work support and material rewards as promised. The extent of psychological contract breach is strongly correlated with employees’ perception about whether the design of reform or the implementation of reform is adequate.

We are interested in the following question: *do experiences of psychological contract breach and of negative perception of the reform frustrate public employees?* The answer is not readily available. In fact, with few exceptions (Thom, 2015), little academic effort has been made to explore pension reform through the lens of public employees’ perceptions of proposed changes. This is a regrettable oversight as dedicated pension schemes for civil servants exist in about half of the countries around the world (Palacios & Whitehouse, 2006), and many public employees choose a public service career out of the concern for attractive pension and fringe benefits, on top of the opportunity to serve the public interest (Ko & Jun, 2015; Lyons et al., 2006). To address our research inquiry, we employ the concept of public employees’ regret over choosing a public service career as a sign of frustration with pension reform. By considering government career entrenchment (i.e., employees fail to quit a public service career even though they wish to do so, see Chen and Xu (2020)), the concept of regret is distinct from turnover intention and thus more suitable for the East Asian context, where our study is based. We elaborate on this point in a later section.

How likely are psychological contract breach and negative perception of the reform to trigger public employees’ regret? Conflicting views exist. On the one hand, there is evidence that public employees are less concerned with monetary incentives than their private sector peers (Houston, 2000, 2011). Lower preoccupation with monetary rewards, therefore, may result in pension reform leading to only marginal levels of regret. However, from another angle, pension is associated more with future financial

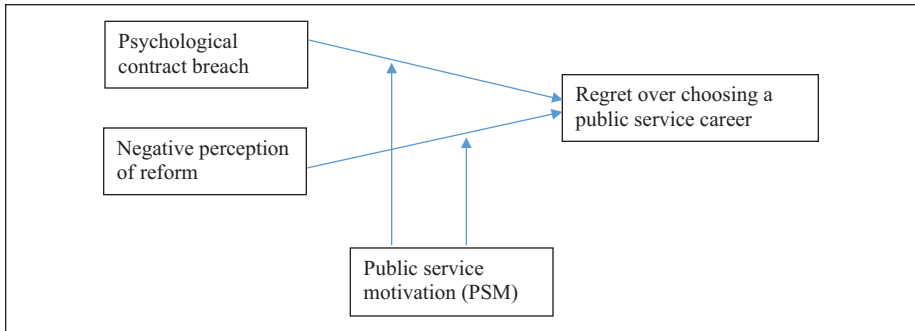


Figure 1. Research framework.

security rather than a contingent monetary reward (Chen & Bozeman, 2013; Terry & White, 2000). Lessons of radical personnel reform from the state of Georgia in the United States also remind scholars that removing job and financial security is detrimental to employee work morale (West & Condrey, 2011).

We are also interested in the moderating role of public service motivation (PSM) in the present study. More precisely, if psychological contract breach and a negative view of reform contribute to public employees’ regret, would this relationship be more significant, or less significant, for high-PSM public employees? Some may intuitively answer “less significant” because high-PSM individuals are altruistic, driven by self-sacrifice, and less dependent upon money for motivation (Perry et al., 2010). An alternative perspective suggests that high-PSM individuals may react even more strongly to pension reform. Recent research on reciprocity norms of PSM (Neumann, 2017) shows that PSM is not fully rooted in other-concern, but instead, self-concern in some cases. Others find that high-PSM individuals are more likely than low-PSM individuals to care about job security (Chen & Hsieh, 2015; Mussagulova et al., 2019). If pension reform implies the removal of job and financial security, it may cause even stronger repercussions for high-PSM public employees.

The research framework is presented in Figure 1. We test these relationships using data collected from 944 Taiwanese public employees in 2018. Regression along with variable moderation is used for analysis. We find that PSM magnifies the negative impact of psychological contract breach and the negative perception of the pension reform on regret over choosing a career in the civil service. Our findings first contribute to the knowledge base of public service pension reform, and in addition, have critical implications that allow public managers to prepare for, and mitigate the risks of, pension reform.

This article is structured as follows. We introduce the context by discussing the public service pension reform in Taiwan. Next, we develop our theoretical framework and present hypotheses. This is then followed by data description, methodology, and analysis. Finally, we discuss the implications of our findings for theory and practice.

We conclude with an acknowledgment of the limitations of our study and propose directions for future research.

Civil Service Pension Reform Act in Taiwan: The Background

Similar to most developed countries, Taiwan faces the problems of aging and a low fertility rate. According to the Ministry of Civil Service (2017) in Taiwan, if the trends of aging and low fertility remain unchanged, the National Pension Fund will be depleted by 2031. To combat potential financial crisis and ensure the sustainability of the pension system, in 2016, Taiwan government began to draft the pension reform act by establishing the Office of the President's Pension Reform Committee. In 2017, the Legislative Yuan (the Congress in Taiwan) passed the Civil Service Pension Reform Act. In July 2018, this new law was officially put into practice.

There are some key features in this new policy. The first one is *delayed retirement*. In the past, public servants could choose to retire at the age of 50, as long as they had worked for the government for over 20 years. In the new system, before 2020, a public servant can choose to retire at the age of 60 with public service tenure for over 25 years, or otherwise, retire at the age of 55 with public service tenure for over 30 years. After 2020, the required age increases every year. In 2031, the required age will be universal at 65 years.

The second one is *pension cuts*, or more precisely, a decreased amount of retirement payments being awarded. In other words, public employees need to work longer, but will receive less when they retire. The essence of a complicated formula for calculating the amount of payment is "the higher the rank, the higher the pension cuts." For example, in a 1 to 14 ranking system, the average monthly payment for a Rank-5 civil servant was NTD52,001 (US\$1,844/month) before 2017, but will be reduced to NTD36,152 (US\$1,282/month) in 2029 (a cut of approximately 30.48%). For a Rank-12 public manager, the average monthly payment was NTD90,227 (US\$3,200/month), but will be reduced to NTD55,729 (US\$1,976/month) in 2029 (a cut of approximately 38.24%). Therefore, the Pension Reform Act affects the high-ranking civil servants more than it affects their low-ranking counterparts. In addition, the Pension Reform Act removes the special interest rate (18%)¹ for savings, which was applicable specifically to public servants, making the entire reform more radical.

The last one is *increased monthly contribution*. Prior to 2018, public employees contributed 12% of their monthly income to the pension fund. After 2018, they need to contribute 18% of their monthly income. Technically they will not experience tangible income loss, but the disposable income is reduced. Essentially, the implemented changes concern both defined benefit and defined contribution in that they translate into substantial cuts of the pension awarded by the state and an expected increase in the contributions of the employees by 6%.

The pension reform does not only apply to incumbent public employees. It also affects approximately 130,000 retired public employees by greatly lowering their

monthly pension. This triggered a long debate about the principle of legitimate expectation, the principle of non-retroactivity, and the principle of proportionality. In sum, the Civil Service Pension Reform Act remains one of the most controversial policies in Taiwan today.

Employee Responses: Two Major Predicting Variables

Psychological Contract Breach

If human beings are, in many cases, inevitably driven by self-interest, we may first witness public employees' psychological contract breach after reform. Psychological contract is characterized as an individual's belief that their contributions obligate the organization to reciprocate (Rousseau, 1989, p. 124). Unlike a formal contract, a psychological contract is unilateral, perceptual, and subjective, sometimes leading to an employee's unique understanding of the contract (Robinson, 1996). In a workplace context, the psychological contract is akin to an unwritten agreement on expectations and obligations between the employees and employers. Psychological contract is two-fold: a transactional contract stands for the short-term, well-specified exchange of work for pay, whereas a relational contract involves long-term commitments such as job security and opportunities for development (Rousseau & Parks, 1993).

Employee expectations and organizational obligations are often referred to as normative beliefs associated with organizational rewards (Nicholson & Johns, 1985; Schein, 1980). For example, an expectation that certain behavior or performance will be followed by certain rewards constitutes an obligation of reciprocity, especially if the commitment to reward was signaled *a priori* (Rousseau, 1989, p. 127). In the context of pension reform, for example, public employees may have expected that they would be able to retire at a certain age and receive a certain amount of pension upon retirement, as long as they performed adequately at work for a certain period of time. Since a pension embodies future financial security, employees may see the government renegeing on its promise as a breach of the relational aspect of the psychological contract—a failure to provide financial security in exchange for continuous commitment. A similar argument is put forward by Gough and Arkani (2011) and Willems et al. (2006). Using the example of the shifting pension landscape (Gough & Arkani, 2011) and civil service pay reforms (Willems et al., 2006), they argue that changing financial and job security arrangements cause a shift in psychological contract and elicit reduced commitment in public servants who highly value security.

In the case of the pension reform in Taiwan, employees who hoped that they would be awarded a certain amount of pension after they accumulated a certain number of years of public service tenure might feel betrayed as they now need to work longer in order to get pension (i.e., delayed retirement), or they might not be able to get the amount they expected (i.e., pension cuts). In fact, the repercussions of pension reform can go far beyond the feeling of betrayal. Many reports remind public servants that, to salvage the National Pension Fund in the long-term, this wave of reform is merely the beginning, and more follow-up reforms should be expected.² This may result in public

employees' loss of faith in government's fiscal credibility, feeling that they "may not live long enough" to eventually receive any payment upon retirement (Lin, 2018).

Negative Perception of the Reform

Public employees' response to reform is not entirely driven by self-interest. By acting as ordinary citizens or the third party, they can at times evaluate the design or implementation of the reform through the lens of public interest. For example, they may offer views on whether delayed retirement is sustainable for the majority of public employees, whether the reform ensures intergenerational justice, and can actually save the current pension system by solving its financial problems, or whether the government has adequately communicated with citizens in the process of reform. However, we acknowledge that such an evaluation can never be fully objective, but to a great extent influenced by public employees' bias or own interest. Those who do not benefit from the old system tend to perceive reform positively, whereas those who experience significant psychological contract breach will likely perceive reform in a negative light. As psychological contract breach, the main focus in the present study, is a psychological phenomenon with predominantly negative connotations, we study negative perceptions (instead of positive perceptions) of the reform.

Hypothesis

Partly due to differences in seniority and financial pressure from the family, public employees may vary with respect to the levels of psychological contract breach and negative perceptions of reform. We wonder whether the experience of psychological contract breach and negative perceptions of reform will lead to frustration in public employees. In the present study, "regret over choosing a public service career" is employed as a sign of frustration. We first introduce the concept of regret and develop our hypotheses accordingly.

Regret

Regret has been extensively studied within economic theory (Bell, 1982; Loomes et al., 1991; Loomes & Sugden, 1986) as well as psychology (Connolly & Zeelenberg, 2002; Gilovich & Medvec, 1995; Mellers et al., 1999), leading to different interpretations of the emotional experience of regret depending on the contextual sensitivities. What unites these approaches, however, are the elements of choice and decision that produce the emotional experience of regret. Regret can be defined as "the difference in value between the assets actually received and the highest level of assets produced by other alternatives" (Bell, 1982, p. 963) or "counterfactual thinking" (Kahneman & Miller, 1986; Roese & Olson, 1995) linking it inextricably to choice between alternatives and decision on which alternatives to choose. For example, Connolly and Zeelenberg (2002) study regret as part of their decision justification theory (DJT). This theory postulates that two core components constitute decision-related regret: one is

associated with the comparative evaluation of the outcome to some standard, and the other concerns the feeling of self-blame for having made a poor choice.

Behavioral consequences of regret are primarily negative and are associated with self-blame (Zeelenberg et al., 2001) and rumination (Handgraaf et al., 1997). Regret is also related to disappointment (Gilovich & Medvec, 1995), decreased life satisfaction, and depression (Roese et al., 2009). It has been found to be especially detrimental in older individuals and is associated with poorer health and life satisfaction (Newall et al., 2009).

In the present study, we examine public employees' regret over choosing a public service career. Some may question how regret differs from the intention to quit a public service career, and why we do not use the latter concept, which is more widely known in public administration research. Our answer is as follows: regret does not necessarily imply that an employee intends to quit a public service career. Due to a number of pragmatic reasons such as stability, limited job alternatives, and the sunk cost for pension and other benefits, public employees often feel "entrenched," even though they do not really like the current public service job (Chen & Xu, 2020). In this regard, regret conceptually differs from the intention to quit.

We also argue that regret is a more suitable concept than the intention to quit in the context of East Asia, where our study is based. Chen and Xu (2020) indicate that aforementioned reasons for entrenchment may be more prevalent in East Asian countries. Another study shows that compared to public employees in Western countries such as the US and New Zealand, those in East Asian countries such as Taiwan feel more reluctant to leave a public service career (Chen et al., 2019). Therefore, we are less inclined to choose the intention to quit, which fails to incorporate the idea of career entrenchment (Chen & Xu, 2020).

Psychological Contract Breach and Regret

Does psychological contract breach cause public employees to regret their choice of a public service career? More precisely, if pension reform lowers public employees' pension, delays their retirement, and undermines their faith that they will eventually receive payment upon retirement, will they regret choosing a public service career? Some may claim that the breach can result in a marginal impact on employees' regret because money is less likely to be a motivator for public employees than their private sector peers (Houston, 2000, 2011; Ko & Jun, 2015). Public employees may not be sensitive to pension reform.

However, an alternative view suggests that money is an important motivator for public employees if we do not look at public-private comparison, but instead, the ranking of public employees' work motives (Jurkiewicz et al., 1998; Lyons et al., 2006). In addition, pension represents a form of job security rather than a monetary incentive to public employees (Chen & Bozeman, 2013). Lessons from a radical personnel reform in the US state of Georgia remind us that removing job and financial security measures can undermine public employees' work morale (Cogburn et al., 2009; Kellough & Nigro, 2002; West & Condrey, 2011). Further, pension represents future financial

security, which works as an important element of individual well-being (Gough & Arkani, 2011; Terry & White, 2000).

Literature on psychological contract further endorses the negative impact of psychological contract breach on employees' emotional response. According to equity theory (Adams, 1965), a psychological contract operates on the assumptions of good faith, fairness, and trust, and thus is a building block in the fabric of the relationship between the parties involved (Robinson, 1996). Consequently, the breach of a psychological contract involves elements of breaking trust and violating principles of fairness. Zhao et al. (2007) find that psychological contract breach has significant impacts on important work attitudes such as job satisfaction and organizational commitment.

Psychological contract breach as a result of pension reform, as mentioned, involves delayed retirement, lowered payment, and most fundamentally, the breach of civil servants' faith that they will eventually receive a pension upon retirement. In the present study, we examine the decrease of faith in eventually receiving payment, as the faith itself is rooted in both delayed retirement and lowered payment. Examining the decrease of faith to a great extent captures the effects of delayed retirement and pension cuts.

H1: Public employees' levels of psychological contract breach (the belief that the likelihood of being awarded a pension decreases or vanishes after the reform) is positively associated with their regret over choosing a public service career.

Negative Perception of the Reform and Regret

As mentioned, in addition to caring about whether their own interest is compromised, public employees sometimes act as ordinary citizens and evaluate the reform from a third-party perspective. Citizens' perceptions of public performance in general and reforms in particular is a prominent theme in the public administration literature. A number of studies address the effects of citizens' perceptions on trust in government (Christensen & LæGreid, 2005; Van de Walle & Bouckaert, 2003). One study addresses the reactions of citizens when they perceive government reforms on important public services negatively (Lyons et al., 1992). The authors of this study propose that citizens may feel disappointed and choose to approach services from the private sector after perceiving long-term poor public services. In the case of pension reform, public employees' negative perceptions of the reform imply that they are disappointed about unjust policies crafted by the government. As members of the government, public employees may lose their sense of pride and regret choosing a public service career.

It is undeniable that negative perceptions through the lens of the third party may be influenced by public employees' psychological state such as psychological contract breach (Robbins & Judge, 2017). Those who experience high levels of breach tend to perceive reform negatively. In fact, our data also show that the two variables are positively correlated with strong statistical significance ($p < .00$). Therefore, if psychological contract breach contributes to public employees' regret, negative perceptions of reform may have a similar effect.

The expectancy disconfirmation model (Oliver, 1980; Van Ryzin, 2005) helps to develop a more nuanced understanding of how negative perception is related to psychological contract breach, and how specific emotional response such as regret occurs when individuals perceive the government's poor performance. In this model, people perceive and evaluate government performance based on their expectations, informed by prior experiences. The discrepancy between expectations and actual experience forms expectancy disconfirmation. It is similar to psychological contract breach where individual expectation prior to experience plays a major role. According to Zeelenberg and Pieters (2004), negative perceptions as a result of expectancy disconfirmation lead to regret when people realize that they would have obtained a different outcome if they opted for another alternative. Therefore, we hypothesize:

H2: Public employees' negative perception of the pension reform is positively associated with their regret over choosing a public service career.

The Moderating Role of Public Service Motivation (PSM)

The discussion so far seems to operate on the assumption that public servants are driven by the logic of pragmatism and are only interested in the monetary aspects of their employment. Motivated by the desire for a stable retirement, they regret joining the civil service once they realize that the payback is subpar to what they expected initially.

This, however, is not a fair characterization of the state of affairs. Public servants are said to be largely driven by PSM, which is defined as "the belief, values, and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate" (Vandenabeele, 2007, p. 547). Research in general suggests that, partly because of the alignment in prosocial values, high-PSM individuals are interested in a public service career (Vandenabeele, 2008). Indeed, PSM is often referred to as "altruistic," "other-regarding," and "selfless" values (Perry et al., 2010; Rainey & Steinbauer, 1999; Schott et al., 2019).

According to motivation crowding theory (Frey & Jegen, 2001), introducing money as a reward can in many cases arouse one's material motivation and crowd out intrinsic motivation. Scholars also find that the desire for money is often incompatible with PSM (Chen & Hsieh, 2015). If public employees' psychological contract breach is grounded in their desire for money, and negative perception of reform is influenced by psychological contract breach (the loss of personal benefits), we expect that PSM may mitigate their impact on regret (Figure 1).

H3: PSM moderates the relationship between psychological contract breach and regret over choosing a public service career, such that the relationship between psychological contract breach and regret is weaker for high-PSM public servants.

H4: PSM moderates the relationship between negative perception of reform and regret over choosing a public service career, such that the relationship between psychological contract breach and regret is weaker for high-PSM public servants.

On the other hand, PSM involves an appraisal of interpersonal and social justice and the individual attitudes toward it. One of the dimensions of the PSM measurement scale by Perry (1996) is on social justice, which includes items such as “I believe government can do much to make society more fair” and “I am willing to use every ounce of my energy to make the world a more just place” (Brewer et al., 2000), while a global scale by Kim et al. (2012) includes an item “I get very upset when I see other people being treated unfairly” which emphasizes the importance of fairness. Extending this logic, PSM may contribute to the belief that civil servants deserve what they perceive as promised to them as part of the psychological contract in exchange for their altruistic efforts based on the notion of distributive justice.

Further, a distinct stream of research investigates the role of reciprocity norms in PSM and its self-concerned foundations. Neumann (2017) conducts a study of 205 police officers in Switzerland and finds that individuals may feel obligated to engage in civil service to repay society for the benefits it offers to its members, especially if they strongly identify with their society. This is in line with an earlier proposition that an individual’s desire to repay the society may take the form of PSM (Koehler & Rainey, 2008, p. 43). They draw on the concept of a shared psychological contract (Rousseau, 1995), arguing that reciprocal altruism hinges on an unwritten agreement between the individual and society that results in a mutual exchange of benefits. Studies by Koehler and Rainey (2008) along with Neumann (2017) challenge the notion of PSM as a pure “other-regarding” form of motivation. It is “self-concern” in some cases.

The “self-concern” element of PSM is further corroborated by the evidence from research on job security. Some recent studies find that high-PSM individuals also show a strong desire for job security, perhaps because job security allows public employees to speak truth to power without the fear of punishment (Chen & Hsieh, 2015; Mussagulova et al., 2019). If high-PSM public employees care about job security, and pension is perceived as a form of job and financial security, we should expect that pension reform elicits a stronger emotional response in high-PSM public employees. Therefore, rather than mitigate the impact of psychological contract breach and negative perception, PSM reinforces it.

Alternative H3: PSM moderates the relationship between psychological contract breach and regret over choosing a public service career, such that the relationship between psychological contract breach and regret is stronger for high-PSM public servants.

Alternative H4: PSM moderates the relationship between negative perception of reform and regret over choosing a public service career, such that the relationship between psychological contract breach and regret is stronger for high-PSM public servants.

Table 1. Sample versus Population.

Rank	Gender	Sample						Population	
		Recruited sample		Supplemented sample		Total		n	%
		n	%	n	%	n	%		
Elementary	Male	25	4.82	83	19.86	108	11.53	22,152	13.59
	Female	57	10.98	85	20.33	142	15.15	27,677	16.98
Junior	Male	166	31.98	143	34.21	309	32.98	47,976	29.44
	Female	248	47.78	96	22.97	344	36.71	56,030	34.38
Senior	Male	12	2.31	7	1.67	19	2.03	5,963	3.66
	Female	11	2.12	4	0.96	15	1.60	3,185	1.95
Total		519	100	418	100	937	100	1,62,983	100

Data and Methods

Data

This study utilizes data from the TIGCR-TGBS (Taiwan Institute for Governance and Communication Research—Taiwan Government Bureaucrat Survey) project. The project was sponsored by the Taiwan Ministry of Education and implemented by the TIGCR.³ The target population of this study were the civil servants under the Elementary-Junior-Senior Rank system (the Rank system). Police officers, judges, prosecutors, public school teachers, and medical personnel were excluded. The research team collected data using quota sampling based on rank (three ranks in total, namely elementary, junior, and senior) and gender. The sample was sourced from two pools. The first pool was the recruited samples. The research team posted recruitment announcements on social media and groups on messaging services (e.g., LINE) comprised of civil servants receiving public service training at the National Academy of Civil Service, the Civil Service Development Institute, and various public universities. The second pool was the supplemented samples. The supplemented samples came from a list of randomly selected public servants in the Executive Yuan (the executive branch in the separation-of-power system). Respondents were compensated for their time with a NTD 500 (about USD 17) voucher.

The research team successfully tallied 937 valid responses from both the recruited and supplemented samples. Out of the 937 respondents, 53.5% are female and 46.5% are male. The average age of the respondents is 35.3 years. About 41.2% of the respondents have a graduate degree (Master’s and above). The majority of the respondents—86.5%—occupy a non-managerial position. There are three ranks in the Taiwanese bureaucratic system: 26.7% of respondents came from the elementary rank (Grade 1–5), 69.7% from the junior rank (Grade 6–9), and 3.63% from the senior rank (Grade 10–14). Table 1 is a summary of the sample and the target population. More

Table 2. Weights for Different Civil Servants.

	Elementary	Junior	Senior
Male	1.18	0.89	1.80
Female	1.12	0.94	1.22

civil servants at the junior level responded to our survey than civil servants at both the elementary and senior levels. The differences between our sample and the total civil servant population in terms of *Rank* are significant ($p = .004$). However, our sample and the total civil servant population in terms of *Gender* are not significantly different from each other ($p = .948$). To make our sample more in line with the population, we calculated the weights to adjust the differences (see Table 2).

Variables

In order to measure respondents' regret over choosing a civil service career, the dependent variable, we posed the following question: "Through time traveling, now you have returned to the time you decided to work for the government. You are given a chance to make your career choice again. Considering everything you have experienced so far, would you still decide to work in the public sector?" This is a binary variable where "Yes" is coded as 0 and "No" is coded as 1.

There are two primary independent variables in this study. First, *psychological contract breach (PCB)* is measured by the following two questions: "Please recall, before the pension reform was passed by the Legislative Yuan, based on your own judgment, how certain would you be able to receive your pension payment?" and "Following the passage of pension reform last year, would you please evaluate once again the possibility of receiving your pension payment when you retire?" Answers range from "1: I would certainly not be able to receive the pension." to "5: A. I would certainly be able to receive the pension." We created this variable by dividing the former by the latter. A large positive number means that the breach of psychosocial contract is more serious than a small positive number. In their meta-analysis of the relationship between psychological contract breach and work-related outcomes, Zhao et al. (2007) note that most studies use either a composite measure, which focuses on the fulfillment of various components of the psychological contract such as high pay, training, and security (Kickul et al., 2002; Robinson & Morrison, 1995); or a global measure that directly assesses an employee's overall perception of how much the organization has fulfilled its promises (McLean Parks et al., 1998; Robinson & Morrison, 2000). The measure we use here is comparable to the composite approach, whereby we are interested in measuring whether employees feel that the civil service fulfilled its promise on a specific aspect of the job.

Second, regarding *negative perception of reform (NPR)*, we consider two fundamental principles that the reform possibly violates: the principle of legitimate expectation (Dewhurst & Diliagka, 2014) and the principle of non-retroactivity (Roin, 2016).

Table 3. Survey Questions and Reliability Scores for Composite Measures.

Measures	α	AVE	CR	FL
Negative perception of the reform	.810	0.513	0.720	
The pension reform has violated the principle of legitimate expectation.				0.695
The pension reform has violated the principle of non-retroactivity.				0.898
The pension reform will trigger inter-generational antagonism.				0.873
The government has overlooked the impact of reform on macro economy.				0.725
Public service motivation	.770	0.328	0.751	
I am eager to know what the public need and accordingly serve them.				0.765
Contribution to society is more meaningful than personal achievement.				0.819
People in the society need each other.				0.621
It is OK to sacrifice one's rights for a just society.				0.748
It is necessary to help others while facing injustice even though this behavior may invite trouble.				0.671

Note. α = Cronbach's alpha; AVE = average variance extracted; CR = composite reliability; FL = factor loading.

In addition, as the reform causes a greater impact on senior public servants than junior ones, we ask whether reform triggers inter-generational antagonism. Finally, similar to most studies on pension reform, we ask respondents whether reform solves the economic problem, or makes the situation worse. Therefore, NPR is the average value of four 6-point Likert scale questions. An example is “the pension reform will trigger inter-generational antagonism.” Answers range from “1: Strongly Disagree” to “6: Strongly Agree.”

To measure *public service motivation (PSM)*, the moderating variable, we employed the 5-item measure developed in earlier studies (Wright et al., 2013). Answers range from “1: Strongly Disagree” to “6: Strongly Agree.” The variable is the average value of the five items. It is worth noting that literal translation of “Meaningful public service is important to me” sounds awkward in Chinese. In our questionnaire, this item was slightly amended as “I am eager to know what the public need and accordingly serve them.” Table 3 presents the survey questionnaire items on NPR and PSM with additional information on their factor loadings, reliability (composite reliability and Cronbach's alpha), and validity (average variance extracted). The values for interitem reliability are all above .6, indicating moderate reliability.

In the present study, we control for several variables. An individual's attitude toward risk, specially his/her tendency toward income stability, is considered. According to Dong (2014), financially risk-averse young adults are more likely to

Table 4. Descriptive Statistics of All Variables.

N= 937	M	SD	Min	Max
Main variables of interest				
Regret	0.391	0.488	0	1
Psychological contract breach	1.477	0.801	0.25	5
Negative perception of reform	4.225	1.078	1	6
Public service motivation	4.264	0.729	1	6
Control variables				
Risk propensity	2.866	2.082	0	10
Age (years, continuous)	35.3	7.876	21	63
Gender (0= male; 1 =female)	0.534	0.499	0	1
Graduate degree (0=no; 1=yes)	0.405	0.491	0	1
Managerial status (0=no; 1=yes)	0.134	0.341	0	1
Elementary rank (0=no; 1=yes)	0.267	0.442	0	1
Junior rank (0=no; 1=yes)	0.697	0.460	0	1
Senior rank (0=no; 1=yes)	0.036	0.187	0	1
Public service tenure (years, continuous)	6.692	7.087	0.17	41.83
Social desirability	3.975	0.488	2	6

choose public sector careers. In addition, risk-averse young adults tend to stay in the public sector longer than their risk-accepting peers. Pfeifer (2011) find similar results using the 2004 wave of the German Socioeconomic Panel (GSOEP). Other studies show that public employees are generally more risk-averse than the private employees (Bellante & Link, 1981; Lyons et al., 2006). To minimize the omitted variable bias, this study controls for financial risk propensity measured by the following question: “How much risk are you willing to take in the aspect of ‘finance’?” Answers range from 0 to 10, where 0 means “Unwilling to take any risk” and 10 means “Willing to take all-risks.” Next, we control for six demographic variables: age (continuous), gender (female=1; male=0), education (master degree=1; college degree or lower=0), managerial status (yes=1; no=0), public service tenure (continuous), and rank (elementary=1; junior=2; senior=3). Finally, we control for social desirability (1=low; 5=high) bias using the five-item measure developed by Hays et al. (1989). Descriptive statistics of the variables are presented in Table 4, whereas correlations between the variables are presented in Table 5.

Dealing with Common Method Bias (CMB)

Common method bias (CMB) is a concern in this study because it relies on self-report measures and perceptions of employees (Podsakoff et al., 2003). We conducted Harman’s single-factor test to check the severity of CMB (George & Pandey, 2017). Principal component analysis identified six factors; the factor displaying the highest loading explains 45% of the total covariance. In view of this, we cannot completely

Table 5. Correlation Coefficients.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Regret	1													
2 Psychological contract breach	0.203***	1												
3 Negative perception of reform	0.248***	0.259***	1											
4 Public service motivation	-0.033	-0.075*	0.020	1										
5 Risk propensity	0.115***	0.022	0.021	0.097*	1									
6 Age	0.165***	0.038	0.135***	0.244***	0.038	1								
7 Gender	0.014	-0.015	-0.029	-0.013	-0.136***	-0.033	1							
8 Graduate degree	0.096*	0.001	0.029	0.094**	0.015	0.207***	-0.075*	1						
9 Managerial status	0.165***	0.030	0.138***	0.127***	0.019	0.370***	-0.040	0.171***	1					
10 Elementary rank	-0.127***	-0.050	-0.074*	-0.061	0.012	-0.146***	0.035	-0.302***	-0.224***	1				
11 Junior rank	0.095**	0.043	0.059	0.024	-0.011	0.017	-0.019	0.228***	0.110**	-0.915***	1			
12 Senior rank	0.067*	0.014	0.030	0.085**	-0.001	0.303***	-0.036	0.154***	0.258***	-0.117***	-0.294***	1		
13 Public service tenure	0.247***	0.064*	0.179***	0.235***	-0.006	0.793***	0.040	0.199***	0.488***	0.248***	0.082*	0.384***	1	
14 Social desirability	-0.043	0.006	0.033	-0.003	0.024	-0.138***	-0.113***	-0.003	-0.025	0.037	0.044	-0.020	-0.116***	1

* $p < .1$. ** $p < .05$. *** $p < .01$.

Table 6. Results of the Logit Regression Model with Standardized Coefficients for Variables of Interest.

	Model 1	Model 2
Psychological Contract Breach (PCB)	0.327*** (0.076)	0.368*** (0.077)
PCB × PSM	—	0.172* (0.082)
Negative Perception of Reform (NPR)	0.418*** (0.078)	0.448*** (0.081)
NPR × PSM	—	0.188* (0.079)
Public Service Motivation (PSM)	-0.225** (0.080)	-0.279** (0.080)
Risk propensity	0.312*** (0.076)	0.312*** (0.077)
Age	-0.022 (0.017)	-0.022 (0.017)
Gender (Female)	0.182 (0.151)	0.210 (0.153)
Graduate degree	0.223 (0.159)	0.224 (0.159)
Managerial status (being a manager)	0.217 (0.241)	0.248 (0.248)
Public service tenure (in years)	0.088*** (0.020)	0.087*** (0.021)
Rank (junior)	0.262 (0.183)	0.271 (0.184)
Rank (senior)	-0.251 (0.426)	-0.182 (0.444)
Social desirability	-0.124 (0.159)	-0.108 (0.158)
Constant	-0.234 (0.863)	-0.300 (0.855)
-2 log likelihood	-541.618	-534.781
Chi-square	131.12	139.24
Prob > chi-square	0.000	0.000
Pseudo R ²	0.132	0.143
N	934	934

* $p < .1$. ** $p < .05$. *** $p < .01$; standard errors in parentheses.

exclude the possibility of common method bias, but it does not appear to be so significant as to invalidate the regression analysis results.

It should be noted that self-report measures are not always upwardly biased (Conway & Lance, 2010; Schoorman & Mayer, 2007). Following the recommendations by Conway and Lance (2010), we explain our rationale for using self-report measures. First, self-reports are appropriate measures of private events, which also applies to regret, psychological contract breach, and negative perceptions. Second, because our theoretical framework focuses on individual perceptions psychological contract breach, negative perceptions, and experience of regret, self-report measures are the more accurate measurement method. The survey also ensured complete anonymity of participants, which, according to Conway and Lance (2010), is a viable approach to mitigating the risk of CMB. Lastly, interaction effects, which are a core element of this article, cannot be the product of CMB (George & Pandey, 2017).

Findings

The dependent variable, regret being a public servant, is a dichotomous variable. Therefore, we use logistic regression for analysis and report results in Table 6. For the

purpose of this analysis, we use standardized measures of independent variables of interest—PCB, NPR, PSM, and risk propensity. In Model 1, both PCB and NPR are significantly and positively correlated with the dependent variable. The results, therefore, show that psychological contract breach increases the likelihood of public employees' regret. In a similar vein, the more negatively a person perceives the reform, the greater regret his/she will experience over choosing to be a civil servant. These findings support Hypotheses 1 and 2. Further, PSM is negatively correlated with regret. This is a logical finding since a civil service job provides more opportunities for contributing to the society hence individuals with a higher level of PSM may be less likely to experience regret over choosing this career pathway.

In addition, our analysis yields some interesting results with respect to the relationship between control variables and regret. Risk propensity is positively correlated with the experience of regret in both models, indicating that risk-averse individuals are less likely to experience regret while those who are prepared to take risks are more susceptible to regret. Public service tenure also displays a positive association with regret over choosing a civil service career: the more senior a public employee is, the more likely he or she is to experience regret over past job choice. The coefficient for social desirability is not statistically significant, pointing to the low likelihood of social desirability bias. Demographic characteristics do not seem to have a statistically significant association with regret either.

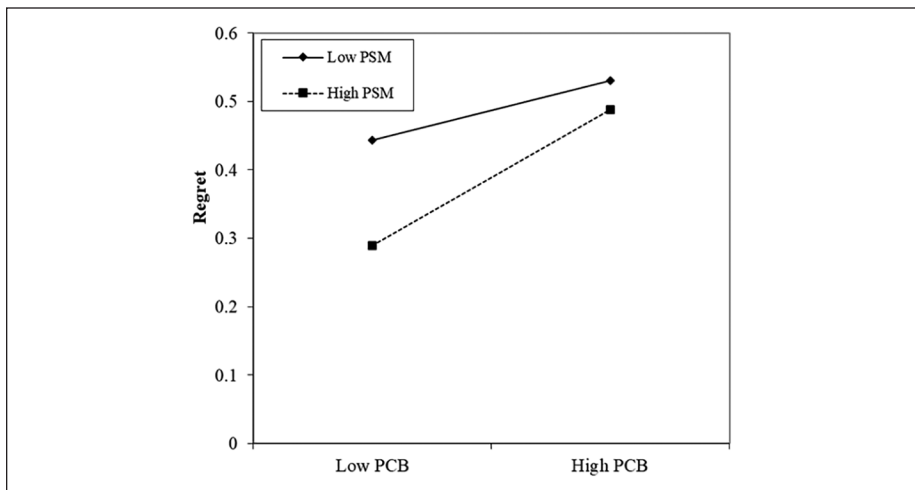
However, the picture changes when we introduce the interaction terms between the two primary independent variables and PSM ($PCB \times PSM$ and $NPR \times PSM$) in Model 2. Results demonstrate that PSM significantly moderates the relationship between the two independent variables and the dependent variable, supporting alternative Hypotheses 3 and 4. In other words, for people who have a relatively low level of PSM, breach of psychological contract or negative perception of the reform does not lead to much regret. On the other hand, for people who have a higher level of PSM, breach of psychological contract or negative perception of the reform would considerably increase their regret choosing a public sector career. These findings motivated us to further examine whether fundamental differences exist between the high-PSM individuals and low-PSM individuals. To do this, we first model variable relationships using the Linear Probability Model (LPM), and the results are reported in Table 7.

Based on the results in Table 7, we calculate the moderation effect of PSM. Figures 2 and 3 show the estimated moderation effect of low (1 standard deviation above the mean) and high PSM (1 standard deviation below the mean) on the relationship between, respectively, PCB and regret, and NPR and regret, following the procedure recommended by Aiken and West (1991). In accordance with our hypotheses, the effect of PCB on regret is stronger with high PSM than with low PSM. The breach of psychological contract affects the low-PSM public employees' regret less than that of high-PSM employees. Similarly, high-PSM individuals are more likely than low-PSM individuals to experience regret as a result of negative perception of the reform.

Table 7. Results of the Linear Probability Model.

	Model 1	Model 2
Psychological Contract Breach (PCB)	0.068*** (0.015)	0.071*** (0.015)
PCB × PSM	—	0.028 (0.015)
Negative Perception of Reform (NPR)	0.084*** (0.015)	0.085*** (0.015)
NPR × PSM	—	0.026 (0.014)
Public Service Motivation (PSM)	-0.045** (0.015)	-0.049** (0.015)
Risk propensity	0.062*** (0.015)	0.061*** (0.015)
Age	-0.004 (0.003)	-0.004 (0.003)
Gender (female)	0.035 (0.030)	0.038 (0.030)
Graduate degree	0.042 (0.032)	0.043 (0.032)
Managerial status (being a manager)	0.050 (0.051)	0.055 (0.051)
Public service tenure (in years)	0.018*** (0.004)	0.017*** (0.004)
Rank (junior)	0.052 (0.035)	0.055 (0.035)
Rank (senior)	-0.042 (0.081)	-0.031 (0.081)
Social desirability	-0.025 (0.031)	-0.024 (0.031)
Constant	0.436** (0.166)	0.438** (0.165)
<i>F</i>	15.18	13.83
Prob > <i>F</i>	0.000	0.000
<i>R</i> ²	0.165	0.174
Adjusted <i>R</i> ²	0.154	0.161
<i>N</i>	934	934

* $p < .1$. ** $p < .05$. *** $p < .01$; standard errors in parentheses.

**Figure 2.** Interaction of PSM on the PCB—regret relationship.

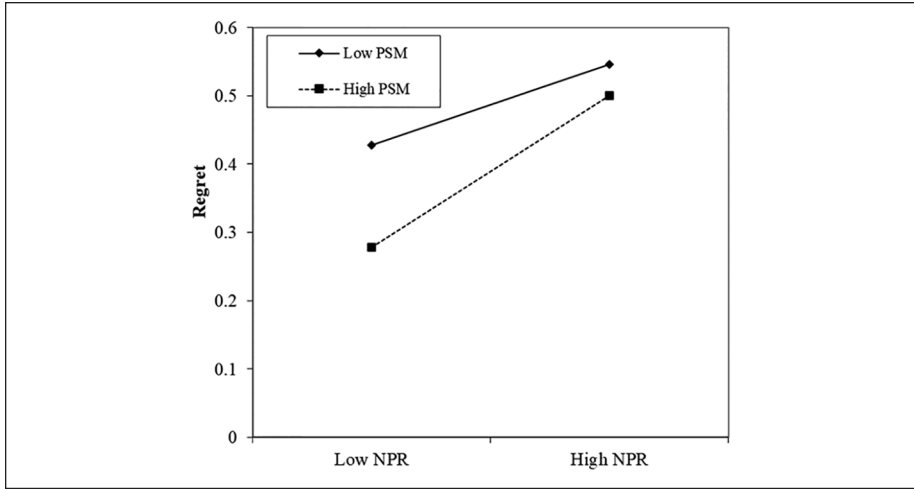


Figure 3. Interaction of PSM on the NPR—regret relationship.

Conclusion

Pension reform by its nature is controversial and divisive and often elicits negative reactions of the citizens. This applies to pension reforms concerning a specific target population—public servants. However, despite the negative connotations and the far-reaching consequences of the pension reform, little attention has been paid to the impact it has on public employees. The present study addresses this issue.

Our findings show that public employees who perceive pension reform as a breach of psychological contract are more likely to regret their choice of being a civil servant. This confirms our hypothesis endorsed by the literature on psychological contract breach (Robinson, 1996; Zhao et al., 2007), which posits that failure to fulfill what the employee perceives as promised by the organization can result in unmet expectations and undermine important work attitudes. This is further corroborated by evidence from a larger public administration literature on the importance of job security for public employees (Chen & Bozeman, 2013; Terry & White, 2000), of which pension is one important manifestation. The same applies to the negative perception of the pension reform—public employees who see the reform as a negative development are more likely to experience regret over their career choice. The mechanism is mainly through discrepancy between expectations informed by previous experience and the actual experience in expectancy disconfirmation model (Oliver, 1980; Van Ryzin, 2005).

Exploring the role of PSM in moderating the impacts of psychological contract breach and negative perception of reform yields some interesting findings. Our results show that high-PSM individuals are more likely to experience regret from the breach of psychological contract and negative perceptions of the pension reform. While

somewhat counter-intuitive, these findings are in line with the emerging stream of research on reciprocity norms in PSM (Neumann, 2017), which finds that individuals may experience reciprocal altruism resulting in a mutual exchange of benefits.

In terms of theoretical contributions, this study is a pioneer academic attempt in addressing the impact of pension reform on public employees. We use the concept of psychological contract breach and draw on the literature on negative perceptions of reform. Both of these theoretical approaches are not new (Lyons et al., 1992; Rousseau, 1989). However, our study is the first to apply psychological contract breach in the context of a public service pension reform and the specific ways and mechanisms in which it elicits negative reactions from public employees. Public employees experience regret over their career choice as they realize that the outcome would have been different if they had opted for another alternative (Zeelenberg & Pieters, 2004).

Second, our study considers the concept of regret over choosing a public service career as the outcome of pension reform. Conceptually different from turnover intention, regret is more attuned to the East Asian context, where public employees often feel “entrenched” in a public service career due to the lack of other opportunities, even if they feel no affinity toward their job (Chen & Xu, 2020). Thus our study broadens the nascent literature on government career entrenchment in non-Western societies (Chen et al., 2019), which considers public management elements embedded in the cultural context.

Finally, our findings on the role of PSM in moderating the impacts of psychological contract breach and negative perception of pension reform defy the prevailing logic of PSM being an “other-regarding” and “altruistic” value in public employees (Perry et al., 2010; Rainey & Steinbauer, 1999; Schott et al., 2019). According to this logic, a higher level of PSM should help public employees offset the negative experience of regret originating from psychological contract breach and negative perception of reform. However, results of this study provide an intriguing perspective on the “self-concern” aspect of PSM stemming from the reciprocity norms and the less researched unwritten agreement between the individual and society on mutual exchange of benefits (Koehler & Rainey, 2008; Neumann, 2017). Further, our research expands the small but growing body of evidence on the empirical connection between PSM and pursuit of job security (Chen & Hsieh, 2015; Mussagulova et al., 2019) by demonstrating that high-PSM individuals experience regret when they feel cheated out of the promise of financial security that pension represents (Coyle-Shapiro & Kessler, 2002; Terry & White, 2000).

Academic literature on the impact of pension reform seldom focuses on public employees. The knowledge on how pension reform affects individual public employees, however, is essential as it provides policy- and decision-makers with perspectives on non-monetary consequences of pension reform, which, if left unmanaged may spill over into decreased performance, and an array of negative reactions from frustration and alienation to turnover (Robinson, 1996; Turnley et al., 2003; Zhao et al., 2007). Further, our study is another empirical example of how the removal of job security adversely affects work morale as demonstrated by radical personnel reforms in the state of Georgia (Cogburn et al., 2009; Kellough & Nigro, 2002; West & Condrey,

2011). It offers public managers an insight into the way pension reform affects public employees: they might feel cheated out of what they see as a reward of security for years of faithful service, and their prosocial proclivity will make them more regretful of their choice of public employment. This knowledge may allow public managers to manage well-being and performance.

This study is not without limitations. First, the data we use is cross-sectional in nature, meaning that it not possible to measure temporal changes in the outcome variables. For this reason, this article makes no sweeping statements about causality. Second, like most correlational studies, this article is subject to the problem of endogeneity, the most prominent being that of omitted variable bias. We may not have considered all the possible determinants of regret, thus overestimating the role of psychological contract breach and negative perception of reform. We relied on thoroughly developed theoretical models that may have reduced the omitted variable bias.

The generalizability issue should be noted. The present study is based in Taiwan, which has a particular administrative tradition, history of labor relations, legitimacy of government, the overall culture of paternalism and Confucian values espousing strict hierarchy and respect for authority. In countries with a stronger labor union tradition, and a higher level of civic activism, this reform may not have been possible, meaning that the results of this study may not be generalizable to starkly different contexts, such as North America and Europe.

Finally, we acknowledge that the methodological complexities of measuring psychological contract breach need to be taken into account when interpreting the results of this research. Our choice of items was informed by the existing approaches of measuring psychological contract breach by asking the participants to evaluate the fulfillment of a few components of the psychological contract. It may be possible that applying other measures, for example those that directly assesses an employee's overall perception of how much the organization has fulfilled its promises may yield additional insights.

Future research could concentrate on addressing the methodological challenges associated with cross-sectional data and non-experimental study design by utilizing panel data and conducting experiments or quasi-experiments to establish whether the relationship between psychological contract breach and negative perception of reform, and regret, is causal. In addition, given the implicit nature of the psychological contract, future research directions could concentrate on pushing the definitional and methodological boundaries of research in this area. New ways of measuring psychological contract breach, as well as identifying specific ways in which psychological contract breach develops under various employment circumstances, and its conceptual difference from changes in formal employment conditions, is another potential avenue for research. Further, the relationship between psychological contract breach and negative perception of reform, and other possible reactions and outcomes need to be tested. It would be especially interesting to investigate the impact of psychological contract breach and negative perception of reform on organizational commitment and performance, work-related stress, and burnout.


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Notes

1. The special interest rate (18%) was the annual interest on savings for the civil servants' pensions in Taiwan. Given the low monthly payments to the civil servants in the 1960s, Taiwan government set a 24% interest rate on saving to improve their standard of living. By 1983, the 24% was adjusted to 18% and remained unchanged for a long time, hence "18%" became a well-known term describing the civil servants in the society. However, along with the increasing payments and benefits provided to the civil servants in recently years, "18%" has become a sarcastic term to characterize the high level of benefits provided to the civil servants, and, as a result, it was proposed to terminate the 18% interest rate. The 2017 Pension Reform Act ruled that 18% would get reduced to 9% by 2018, and to 0% by 2021.
2. Many similar reports (in Chinese) are available online. We provide some as follows: (i) <https://www.businesstoday.com.tw/article/category/80392/post/201906050031/%E7%8F%BE%E5%9C%A8%E5%8F%AA%E6%98%AF%E6%99%9A%E5%8D%81%E5%B9%B4%E7%A0%B4%E7%94%A2%20%E9%80%80%E6%92%AB%E5%9F%BA%E9%87%91%E5%9B%9B%E5%B9%B4%E5%85%A7%E9%A0%88%E5%86%8D%E6%94%B9%E4%B8%80%E6%B3%A2>; (ii) <https://udn.com/news/story/6885/4192488>
3. Data analyzed in this paper are from Taiwan Institute for Governance and Communication Research (TIGCR), 2018: Taiwan Government Bureaucrats Survey (TIGCR-TGBS 2018). More information can be found on TIGCR website (<http://tigcr.nccu.edu.tw/>). We thank the principal investigators of TIGCR, Professor Chi Huang and Professor Ching-Ching Chang for making the data publicly available (DOI: 10.6923/TW-TIGCR-TGBS2018 (<https://tigcr.nccu.edu.tw/en/survey-search>)).

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