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# 'Tiger-Hunting' and Life Satisfaction: A Matter of Trust

## Abstract

Governments will often look to publicly signal their efforts to tackle issues of concern as a way of garnering political support. Combining data on the public disclosure of anti-corruption efforts and individual well-being in China, we show that such signals may increase the salience of the issue in question and hence diminish the life satisfaction of citizens with low political trust. For citizens with high trust, such signals appear to enhance life satisfaction. This means that signalling efforts may have unintended negative consequences on population well-being and thus political support, particularly when faced with low political trust.

JEL-Codes: D730, I310, P480, O170.

Keywords: corruption, life satisfaction, political trust, signalling theory, confirmation bias.

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#### 1. Introduction

There is a widely circulated story in the famous Chinese classic novel *All Men Are Brothers*: a young man named *Wu Song*, by his bare hands, killed a ferocious tiger that had hurt many people which made him a well-known folk hero. 'Hunting tigers' has since become a symbol reflective of efforts aimed at getting rid of any evil in Chinese culture which is why the contemporary Chinese government has dubbed the corruption investigations of senior officials as 'Tiger-Hunting' (in what follows, TH; Jing-Schmidt & Peng, 2017). Clearly eliminating an imminent danger to life would improve local residents' mental well-being.<sup>1</sup> The question we pose is whether hunting down corrupt senior government officials, and in particular the public disclosure of such efforts, leads to a happier society.

Corruption is a widespread phenomenon particularly in developing and emerging economies and recognised as an important barrier towards economic development (Mauro, 1995; Aidt, 2009; Grundler & Potrafke, 2019).<sup>2</sup> It lowers human capital accumulation, increases fiscal deficits and poverty (Dimant & Tosato, 2018), discourages investment on public goods (Beekman et al., 2014), damages the effectiveness of the legal system and, in the process, reproduces itself (Herzfeld & Weiss, 2003). It is not too surprising therefore to note that there is ample evidence indicating corruption itself does have a detrimental impact on people's mental well-being (e.g., Sharma et al., 2021). Accordingly, one would expect anti-corruption efforts to be beneficial. We argue, however, that this relationship is not clear-cut, particularly when it comes to the public disclosure of anticorruption efforts. Our core argument is that information pertaining to anti-corruption investigations can be seen in both a positive and a negative light. On the one hand, it can signal a government's commitment towards cracking down on corruption; on the other hand, by highlighting corruption, some citizens may come to believe that corruption is more pervasive than they had initially thought. A priori, it is therefore unclear what these different effects imply for individual well-being, overall. As we discuss later, we propose this will depend on the level of political trust.

The recent move towards prosecuting senior provincial officials on corruption charges in China provides us with an ideal setting to empirically examine this issue. Except for some limited

<sup>&</sup>lt;sup>1</sup> Mental well-being, happiness and life satisfaction are used interchangeably in this paper.

<sup>&</sup>lt;sup>2</sup> Theoretically, corruption may also 'grease the wheel' of economic development (e.g., Lui, 1985), but the empirical evidence that corruption lowers economic growth overall is overwhelming (Dimant & Tosato, 2018).

elections at the village level in rural areas (Martinez-Bravo et al., 2022), officials in the Chinese government at all levels are appointed by upper level bureaucrats who themselves are government appointees. In correspondence with this, the anti-corruption campaign in China is principally a top-down movement, leaving the public with little to no influence on the decision about which high-ranking officials are to be investigated. Crucially, every single TH event is officially disclosed and propagated widely in the media, ensuring the public are made aware of the government's anti-corruption efforts. Adding to that, there is a long-standing Chinese culture of 'Official-Oriented Thought'<sup>3</sup> (Gao, 2016), which means that any information relating to senior (provincial) officials will inevitably attract attention. Although the campaign is nationwide and all provinces have had senior officials investigated, the frequency of TH varies considerably across provinces and years. Matching data about the distribution of TH events across provinces with a longitudinal geo-referenced survey, we estimate the well-being effect of individuals' exposure to TH disclosures concerning high-ranking officials in their province.

We begin our analysis by discussing the Chinese government's efforts to widely disseminate the investigation of high-ranking officials from the perspective of signalling theory. Signalling theory captures the idea that the government or other entities (e.g., firms, individuals) may choose to send a costly signal to convince others (the receiver) of certain desirable qualities (Spence, 1973). In this context, anti-corruption campaigns, and in particular the public disclosure of anti-corruption investigations, can be seen as an effort by the ruling party to sustain political support (Kang & Zhu, 2021). TH disclosures are a costly signal due to both the cost of TH itself and the efforts to widely promote and disseminate knowledge of these events amongst the general public. The Chinese government may intend for the public disclosure of TH events to be seen as a positive signal of its commitment to tackling a social issue of growing importance, giving rise to what we name as a 'countering effect' on what the public believe is the prevalence of corruption. Simply put, if people see high-ranking officials prosecuted on corruption charges, they may expect that corruption will reduce. In line with the assumed intention of the government, the public may receive this as good news that should enhance their mental well-being.

Nevertheless, the public disclosure of TH events may also be interpreted negatively. For example, due to a lack of objective knowledge about the actual level of corruption, the public may

<sup>&</sup>lt;sup>3</sup> Official-Oriented Thought, or Official Rank Standard, refers to a worship of government officials, particularly senior government officials. Any news or anecdotes involving senior officials are always a hot topic of conversation among the general public.

learn through the disclosure of TH events that corruption is more pervasive than they previously thought. Increasing the salience of corruption through TH may thus diminish mental well-being ('salience effect'). What is more, some citizens may see TH events as an effort by the ruling party to remove provincial high-ranking officials that have fallen into disfavour with the central government for reasons unrelated to corruption.

As a result of these considerations, we put forward political trust as key to understanding the impact of TH disclosures on mental well-being. There is an oft-commentated upon tendency for people to interpret new information in a way that supports their own existing beliefs, known as confirmation bias (Lord et al., 1979). If individuals believe the government is trustworthy, we argue that they will likely focus on the positive aspects of the signal when exposed to TH disclosures as that is in keeping with their existing perception of the government. The opposite may be true for individuals with low political trust.

In order to estimate the impact of TH events at the provincial level for individual mental wellbeing, we match information capturing the public disclosure of TH events across provinces with survey data from the China Family Panel Studies (CFPS). This enables us to use an individualfixed effect model controlling for any time-invariant individual and provincial characteristics in the estimation of our measure of mental well-being, namely self-reported life satisfaction. One may argue that TH events are unrelated to provincial characteristics as the decision to investigate high-ranking officials is largely influenced by their personal political ties (we discuss this in more detail in section 2). Additionally, high-ranking officials are regularly rotated across provinces, further breaking the link between provincial characteristics and the decision to investigate an individual on corruption charges. Nonetheless, we include a number of time-variant provincial characteristics as control variables in our empirical model. The empirical model is further augmented with a number of time-variant individual characteristics which allow us to analyse effect heterogeneity using interaction variables.

Our results demonstrate that, on average, TH disclosures are negatively associated with individual life satisfaction. We show how this main effect masks considerable heterogeneity with political trust playing an important moderating role. As an illustration, for those with high political trust, we find that TH disclosures are associated with an increase in mental well-being, but for those with low political trust, it appears that TH disclosures have the opposite effect. We also find that the estimated effect of TH events varies significantly across socio-demographic groups with

older individuals as well as those with a rural-*Hukou* status responding more positively to TH disclosures in their province.

These findings remain robust under a bulk of sensitivity tests. We first underpin the assumption that TH is an exogenous event at the provincial level by showing that TH is unrelated to a series of province-level variables capturing differences in the economic and social conditions across provinces. Crucially, TH is also unrelated to past, current and future actual levels of corruption in a province. We also confirm that our results are robust to different empirical modelling approaches and different measures of TH. Finally, we show that the public disclosure of anti-corruption investigations is unrelated to people's individual experience of corruption which further supports our argument that the well-being impact of TH is driven largely through signalling effects.

While the relationship between corruption and citizens' well-being has been widely studied (Tay et al., 2014; Wu & Zhu, 2016; Sulemana et al., 2017; Helliwell et al., 2018; Li & An, 2019; Sharma et al., 2021), the well-being impact of related policy measures such as anti-corruption campaigns is largely unknown. The only study we are aware of that is close to our own is the work carried out by Sharma et al. (2021), who examine the relationship between corruption and mental health in Vietnam. Among other things, this study reported how the average change in mental health between 2016 and 2018 was more positive in high-corruption regions relative to other regions. They relate this result to Vietnam's 2016 anti-corruption campaign. Presumably, highcorruption regions were exposed more strongly to the campaign than low-corruption regions, which in turn could be the reason for the difference in the change of mental health over time. The present study substantively differs from Sharma et al. (2021) as we are able to directly measure the disclosure of anti-corruption investigations across provinces. What is more, we are principally concerned with the impact of public dissemination of anti-corruption investigations for mental well-being, as opposed to the impact of corruption itself. Moreover, we shed light on the importance of political trust as well as further individual-level variables in shaping the impact of observing anti-corruption events for mental well-being.

This study also contributes to previous work on corruption as well as measures to fight it. There is an emerging literature on the effects of disclosing anti-corruption information on corruption and voting behaviour (Ferraz & Finan, 2008; Cavalcanti et al., 2018; Avis et al., 2018; Colonnelli et al., 2022). Some studies have analysed the impact of the current anti-corruption campaign in China on related outcomes, such as corruption-related rent-seeking (Chen & Kung, 2019), political support (Wang & Dickson, 2022), civil servant recruitment (Jiang et al., 2022) and different corporate behaviours (e.g., Xu & Yano, 2017; Hao et al., 2020; Xu et al., 2021). Others shed light on whether investigating high-ranking officials will reduce or, inversely, increase actual corruption from a purely theoretical angle (Che et al., 2019). Within this literature, we are the first to link this campaign to mental well-being which is an important indicator of overall social progress and hence government performance (Stiglitz et al., 2009).

Overall, our results offer important new insights when it comes to understanding how the public interpret government action and more broadly the importance of political trust. We demonstrate how the high cost of signalling itself may not be enough to convince the public of 'good intentions', particularly when faced with low political trust. Ultimately, our findings also suggest that there may be a potential disincentive for governments to tackle certain problems if, by doing so, they make the problem more salient to citizens.

The remainder of this paper is organised as follows. In Section 2, we first introduce China's anti-corruption campaign in detail, then present signalling theory as a useful framework for understanding how the public disclosure of anti-corruption investigations could affect people's life satisfaction. Section 3 outlines our data sources. Section 4 describes the empirical strategy. In Section 5, we document our main findings. This is followed by Section 6 which presents various robustness checks and further analyses. Lastly, we conclude with a discussion of our main findings in Section 7.

#### 2. Background and theoretical considerations

#### 2.1 China's anti-corruption campaign

Corruption has become an issue of increasing concern for the general public in China (Pew Research Center, 2016). President Xi Jinping has even warned that corruption is threatening the survival of the ruling Communist Party of China (CPC, Wong, 2012). To help address public concern on this issue, an intensive anti-corruption campaign was initiated towards the end of 2012 and swept across the country over the following years (Wedeman, 2017). A striking feature of this campaign is that a large number of high-ranking officials have been investigated (see Appendix

Table A1). There were also some prior investigations on senior officials, the scale however was much smaller.

The official ranks in Chinese government are as follows: national level, provincial-ministerial level, prefectural-bureau level, county-division level, town-section level, village-clerk level. The provincial government is hence the top level of local government in China. Despite the political centralization, officials in local governments particularly in the provincial government are endowed with considerable discretionary power in their jurisdiction (Li & Zhou, 2005). The central government is in charge of provincial officials and they are directly managed by the Central Organization Department (COD), a core institution controlling the most important and powerful cadres in contemporary China (Lance, 2015). Given their status, provincial officials can only be investigated by the Central Commission for Discipline Inspection (CCDI), the top agency responsible for anti-corruption in China.

The Chinese government has looked to heavily publicise its anti-corruption investigations. As an illustration, each single TH event is announced on the official CCDI website. Following this, the news is actively publicised on all mainstream media platforms (e.g., *Sina Weibo*, the Chinese *Twitter*), using the folk-popular tag of 'Tiger-Hunting' to promote its dissemination (Sun et al., 2022). This is usually followed by a strong moral condemnation as well as *stories* describing the ousted official's road to corruption. As a result, these news items attract considerable public attention. For example, within one week the investigation of the party secretary of Hangzhou city (capital of Zhejiang province) in August 2021 attracted 700 million views on *Sina Weibo*.

Although there is heavy propaganda after the CCDI announcement of a TH event, the decision-making process underpinning these investigations is opaque. According to CCDI's interpretation of its rules for discipline inspection (Central Commission for Discipline Inspection, 2020), any formal investigation should be based on a careful scrutiny of any evidence pertaining to violations of party discipline or law. This means that there is likely some 'pre-investigation' before each public disclosure which, in turn, limits the potential for the government to announce TH events in response to other provincial factors such as economic growth. It therefore seems unlikely that TH could be an effective tool for the government to arbitrarily distract the public from other social issues. In further support of this premise, we show in Section 6 that TH events are not correlated with a wide range of provincial level factors (e.g., provincial growth rates, actual corruption, number of civil servants etc.).

We focus on TH disclosures concerning provincial officials in local government and their impact on the life satisfaction of individuals living in the same province. This is, firstly, because Chinese people usually construct their social ties based on geographical and genealogical connections (Fei et al., 1992; Fisman et al., 2018), which means that people are likely to be far more concerned about TH in their own province than in other areas. Second, the considerable variation in the frequency of TH events across provinces (see Appendix Table A1) allows for meaningful regression analyses. One possible explanation for differences across provinces in the frequency of TH are different levels of actual corruption. As we document later, however, the frequency of TH events appears unrelated to actual corruption levels as well as numerous other provincial characteristics (see, again, Section 6).

We therefore assume that the distribution of TH among different provinces is as good as random. Two further reasons support this assumption. First, personal connections (e.g., shared hometown, college or former workplaces) with the top leaders in central government are believed to have an important influence on the career development of political elites in contemporary China (Shih et al., 2012; Jia et al., 2015). Such personal connections are in turn a crucial factor in the decision to investigate a potentially corrupt high-ranking official (Jiang et al., 2022). This means TH is more of a person-specific event than a regional event. Second, for the purpose of preventing regional political alliances and corruption, there is a convention of geographical rotation of high-ranking officials in contemporary China (Jiang & Mei, 2020). This further reduces the connection between the frequency of TH events and certain provinces.

#### 2.2 Tiger-Hunting through the lens of signalling theory

We use signalling theory as a theoretical framework to rationalise the Chinese government's efforts to advertise anti-corruption successes and to predict the effect of disclosing these TH events on citizen well-being. In a seminal article, Spence (1973) postulated that high-quality prospective employees distinguish themselves from low-quality ones via the costly signal of higher education. The argument being that candidates are in effect seeking further education partly as a means to signal their 'quality' and reduce information asymmetries about their skills and motivation. Workers of lesser ability are unable or unwilling to mimic this 'signal' as it is harder for them to succeed in higher education.

Signalling theory has since been used to explain behaviours in a wide variety of situations, such as the public disclosure of charitable donations (Bracha & Vesterlund, 2017), the use of diverse boards by firms to enhance reputation and status (Lamkin Broome & Krawiec, 2008), bluffing in auctions (Horner & Sahuguet, 2007) and sunk cost signalling where states look to signal their resolve to other states (Quek, 2021). Each of these examples illustrates how one party undertakes costly efforts to signal a specific quality to another party. Given the information asymmetry between the government and the public (Lorentzen, 2014; Wu et al., 2017), the active public disclosure of TH events can be seen as an effort by the ruling party to signal its commitment to reduce corruption (Diallo, 2021). To this end, it is seeking to distinguish itself from a 'low-quality government' that allows corruption to flourish with a view to retaining public support.

The signal meets the requirement of being costly for several reasons. First, policing corruption itself is costly (Lui, 1986). Provincial officials in China possess considerable power and complex political connections and investigating them is often met with significant resistance (Xu, 2016). In addition, the government goes to considerable effort in publicising these TH events and in developing supportive narratives (i.e., stories documenting their road to corruption).

While the signaller looks to 'signal' its good intentions, the receiver is free to interpret the signal in any fashion they so wish. In theoretical applications of signalling theory, the signal is usually seen as beneficial for not only the sender, but also the receiver. Going back to Spence's original example of higher education, the receiver (employer) of the signal benefits from being able to effectively discriminate between job candidates on the basis of ability. In keeping with this idea, the public could also benefit from the signal of TH disclosures by learning that corruption is being seriously tackled and should therefore become less prevalent. As a result of this 'countering effect', the well-being of citizens should improve.

In reality, however, the receiver may interpret the signal in a negative fashion, against the original intention of the signaller (Connelly et al., 2011). The lack of information about the actual level of corruption originates not only from uncertainty about the government's efforts to fight it, but more generally the true prevalence of corruption is hard to determine (e.g., Saiz & Simonsohn, 2013). Due to this uncertainty, TH events could expose corruption citizens were unaware of, giving rise to a 'salience effect'. Perceiving corruption as even rifer than before, citizens may actually experience a reduction of their well-being in response to learning about another TH event. In support of this premise, a recent study suggests that anti-corruption campaigns in China actually

increase the public's subjective perception of the level of corruption, on average (Wang & Dickson, 2022).

A question to ask is therefore whether we can predict if the public disclosure of anticorruption investigations will be seen in a positive or negative light at the individual level. A starting point in thinking about this issue is to consider how individuals will deal with the bad news and the good news (countering and salience) the TH signal conveys. We posit that people's trust in the government (political trust thereafter, Hetherington, 1998), in connection with confirmation bias, will be key in predicting which effect dominates at the individual level. <sup>4</sup> A person who believes in the trustworthiness of the government will we suggest be more likely to neglect the bad news the signal carries, and focus on the good news. In other words, they will be more likely to see the TH signal as evidence of good intentions. This means that, even if the salience effect is strong for the average person, the higher the level of political trust the more likely it is that a person will benefit from observing TH disclosures in the media as to them efforts to tackle corruption will be in keeping with their existing positive perception of the government.

However, as political trust lowers, we argue it becomes more likely that the salience effect dominates, resulting in diminished mental well-being. Someone who has no trust in the government whatsoever may, in fact, hesitate to consider any government action as good news at all. This is aided by the lack of information relating to the decision-making process underpinning TH events which may raise suspicions about the true purpose of an investigation. Simply put, TH might be seen as an attempt to get rid of a provincial official who, for whatever reason, has become a nuisance for the central government. In the process, the lack of political trust eliminates the countering effect as the person does not believe tackling corruption to be at the heart of the government's motive.

#### 3. Data

Our individual-level data come from the China Family Panel Studies (CFPS, Institute of Social Science Survey, Peking University, 2015). This longitudinal nationally representative survey is conducted every two years beginning in 2010 with the last wave released in 2018. The CFPS samples over 32,000 adults (age  $\geq$  16 in 2010) across 25 provinces (listed in the Appendix Table

<sup>&</sup>lt;sup>4</sup> Confirmation bias describes the tendency of people to often seek out and interpret news in a way that nurtures their existing attitudes and beliefs (Lord et al., 1979; Rabin & Schrag, 1999; Wilson, 2014).

A1). These provinces cover 95% of the Chinese population. We match the individual-level data with provincial characteristics and TH events occurring between two survey waves based on the interview month as well as the province in which each respondent lives. As explained in greater detail below, we therefore use CFPS waves from 2012-2018 only. We exclude respondents who migrated across provinces while participating in the CFPS (about 1% of the full sample). This is because we cannot calculate the frequency of TH events for these respondents as we do not know exactly when they moved in or out of a province (i.e., in which province they lived when a TH event happened). Our final sample consists of a balanced panel of 41,724 observations, after observations with missing values on individual characteristics used in the empirical analyses were excluded. <sup>5</sup>

We measure mental well-being based on a survey item in the CFPS that requires respondents to indicate their life satisfaction on a 5-point scale using the question: '*Are you satisfied with your life*'. A score of 1 corresponds to the lowest level of satisfaction, 5 the highest. The measure of political trust is based on a survey item where respondents are presented with an 11-point scale and asked to answer the following question '*How much do you trust the cadres (officials in local county-level government)*', with 0 indicating least trust and 10 highest trust. While the item refers to the 'local county-level' we assume that it is inextricably linked with the trust in the central government because all levels of government are controlled at the central level (see Section 2). This measure has been widely used before to capture political trust (e.g., Cai et al., 2020).

Further individual-level information that are used as control variables include age, education (six levels from being illiterate to having a university degree), residence (urban or rural area), political status (member of the CPC) and family per capita income. *Hukou* status denotes if a person possesses a permanent urban residency permit and hence has access to wide-ranging public services and social security, such as in the areas of education, healthcare and pensions. Note that simply working and living in an urban area does not mean a person has urban *Hukou* status (Deng & Schöb, 2022).

Our starting point in capturing TH events is a list of all investigated provincial officials in local governments since December 2012 obtained from *China Economic Net* (Economic Daily, 2020). This source records the detailed position of the investigated official and the official

<sup>&</sup>lt;sup>5</sup> We also conduct a sensitivity check where we replicate all our main results using an unbalanced panel. These results (see Appendix Table A3) are quantitively indistinguishable from our preferred setting.

disclosure date of the investigation. While the large-scale investigations of senior officials started at the end of 2012, there were already a few investigations of provincial officials in previous years (see Appendix Table A1). These were also widely publicised by state media. We were able to obtain information pertaining to these anti-corruption investigations from the CCDI annual work report (Central Commission for Discipline Inspection, 2011, 2012, 2013).<sup>6</sup> We then simply assign each individual in the CFPS the number of TH events that have happened in their province between the dates of the previous survey interview and the current interview (roughly, two years).<sup>7</sup> As there are no pre-2010 TH data at our disposal, the first CFPS wave is not part of the study.

Our analyses also include various socio-economic indicators at the provincial level. These data are obtained from the China Statistical Yearbook (National Bureau of Statistics, 2011-2018) and the Procuratorial Yearbook of China (Supreme People's Procuratorate, 2011-2018) and due to spatial identifiers we can match these data sources with the CFPS.<sup>8</sup> The provincial indicators are designed to capture differences in the levels of economic and social development across provinces, such as per capita GDP and the GDP growth rate. We also include a measure of the actual level of corruption, albeit we concede that corruption is challenging to measure precisely, as it is typically concealed (e.g., Olken, 2009). Following a common measure of corruption in studies on China (e.g., Huang et al., 2017), we use the annual number of filed corruption investigation cases at all government levels within a province (from the Procuratorial Yearbook of China) per 10,000 people as a proxy for actual corruption. Note that, unlike TH events, these data are not actively publicised by the government and hence less known to the public. To take the local government scale into account, we include government fiscal size, which is measured by the ratio of government expenditure and GDP of each province, and the ratio of civil servants, which is measured by the number of civil servants per 100 people.

For an overview of summary statistics, we refer the reader to Appendix Table A2. The average frequency of TH events a person experiences between two waves of the CFPS is 1.2. In general, the frequency of TH events during the sampling period varies markedly, which is

<sup>&</sup>lt;sup>6</sup> We conduct a robustness check by excluding the data that is manually collected based on CCDI work reports, i.e., focusing on the sample period after 2012. The results are quantitatively the same to our main setting (see Appendix Table A4).

<sup>&</sup>lt;sup>7</sup> For TH events in 2010 and 2011 we matched this with life satisfaction data recorded in 2012 and so on.

<sup>&</sup>lt;sup>8</sup> Statistical yearbook data concern the respective previous year, so our provincial characteristics cover 2010 to 2017. In some years yearbooks lack data from certain provinces. We supplement those data by manually collecting information from the People's Procuratorate's annual work report in provincial governments.

advantageous for estimation purposes. The average life satisfaction score is 3.7. The mean value of political trust is 5.1.

#### 4. Empirical strategy

We employ an individual-fixed effects model to evaluate the effect of TH disclosures on individual life satisfaction. Our baseline empirical specification is as follows:

 $LS_{ijt} = \alpha + \beta \cdot QTH_{ijt} + \varphi \cdot PT_{ijt} + Pro_{jt} \cdot \delta + Ind_{ijt} \cdot \lambda + \phi \cdot LoI_{ijt} + \theta_k + \eta_i + \varepsilon_{ijt}$   $LS_{ijt}$  represents life satisfaction of individual *i* in province *j* and year *t*.  $\eta_i$  is the individual-fixed effect. As migrants between provinces are excluded, the individual-fixed effects also absorb stable provincial characteristics.  $QTH_{ijt}$  is the key independent variable denoting the frequency of TH disclosures that individual *i* in province *j* has experienced between the previous and the current wave of the CFPS, i.e., from year *t*-2 to the current interview year *t*. As an illustration, assume individual *i* in CFPS was interviewed in July 2012 and December 2014 respectively, then  $QTH_{ij,2014}$  equals to the total number of investigated provincial officials between July 2012 (not including) and December 2014 (including) in province *j*.<sup>9</sup> In Section 5, we also test the sensitivity of our results to alternative means of measuring TH events. Note that, throughout, we cluster standard errors at the province level.

As the individual-fixed effect captures the influence of all stable characteristics of a person, our identification of the effect of TH disclosures on life satisfaction rests on the assumption that these disclosures are exogenous to other changes in the lives of the respondents between survey interviews. The fact that corruption investigations are initiated by a central government agency makes it clear that changes in the lives of individual respondents do not trigger TH events. Given that senior officials' personal political ties play a role in the decision to investigate an individual for corruption and also that they are rotated across provinces, changes in provincial characteristics are unlikely to trigger TH events. This is supported by our finding that the actual level of corruption as well as numerous provincial characteristics are unrelated to the frequency of TH events at the provincial level (see Section 6.1 and 6.5).

<sup>&</sup>lt;sup>9</sup> If a provincial official was investigated at the end of December 2014 while individual i was interviewed at the beginning of the month, they actually were not 'treated' by this TH event. We conduct a sensitivity check by measuring TH events until the last month before the interview month (November 2014 in the above example). The estimated effect of TH is very similar to that of our main baseline estimates presented later in Table 2 when we exclude these observations. See details in Appendix Table A5.

Furthermore, respondents (even in the same province) in the CFPS were interviewed in different months of the respective survey year and the interview month varies within individuals across the different waves of the survey.<sup>10</sup> Even observations from the same province and survey year therefore experience different frequencies of TH disclosures. This increases the randomness of the frequency of TH events that each respondent experienced during the CFPS intervals.

To further alleviate concerns about the exogeneity of TH events, vector **Pro**<sub>it</sub> covers timevariant provincial characteristics. This includes the contextual (actual) level of corruption, the government fiscal size, the ratio of civil servants, the GDP growth rate and per-capita GDP. Similarly to our approach in calculating QTH, we use the two-year average value between each survey wave of the CFPS for all provincial variables. Considering the decision to investigate a public official for corruption could happen significantly before the public disclosure, we also use provincial controls lagged for additional years and confirm that the results are not quantitatively different.

 $PT_{iit}$  represents the political trust of individual i in province j and year t. Ind<sub>iit</sub> is a vector of time-variant control variables at the individual level. This includes age squared (divided by 100)<sup>11</sup>, education level, residence (urban or rural area), Hukou (household registration), CPC member, family per capita income (in logarithm).

To capture time trends, we add the time-fixed effects  $\theta_k$ , a series of binary variables indicating the specific CFPS interview month while also capturing year effects (e.g., October 2014 and October 2016 are represented by different variables). The length of the interval (in months) between two waves of CFPS at the individual level is also controlled for (LoI<sub>iit</sub>). The reason is that longer intervals will result in larger OTH, which could create an endogeneity issue if the length of the interval was also correlated with changes in life satisfaction. Note, however, that our findings do not depend on controlling for Lol<sub>ijt</sub>.

To aid the presentation of our results, we treat life satisfaction as a cardinal variable running an individual-fixed effects OLS model. We also conduct a robustness check employing an individual-fixed effects ordered logit model (Baetschmann et al., 2020). The results are in keeping

<sup>&</sup>lt;sup>10</sup> A fraction (4.7%) of the full sample were interviewed between January and June of the second year of each wave CFPS, e.g., some observations of CFPS 2012 were interviewed in March 2013. We exclude this part of the sample because our sample is a balanced panel neatly spanned across 2012, 2014, 2016 and 2018, and all provincial controls are matched on the first year of each wave of the CFPS. The results would not differ quantitatively if the excluded observations were kept in the sample.

with our baseline estimates. In addition, a random effects model that considers both within-person and between-person variation as well as a hierarchical linear modelling approach are employed as further robustness checks. The estimates of *QTH* in all these additional modelling approaches are similar to our baseline estimates presented in the following section. Results from these other modelling approaches are presented in Appendix Table A6.

#### 5. Empirical results

#### 5.1 The average effect of TH disclosures on life satisfaction

We first look at the direct relationship between TH disclosures and individual life satisfaction before considering the moderating role of political trust. The results are presented in Table 1. In column 1, a parsimonious model is estimated controlling for individual and time-fixed effects only. We can see here that *QTH* attracts a negative yet insignificant coefficient ( $\beta = -0.008$ , p =0.286). As we add our detailed set of provincial and individual controls in Specification 2, the *QTH* estimate gains precision and becomes statistically significant, albeit at the 10% level only ( $\beta = -0.011$ , p = 0.084). This provides some initial evidence to suggest that TH disclosures are associated with a net cost when it comes to individual mental well-being.

Next, we examine how sensitive our results are to alternative ways of measuring TH disclosures. Specifically, we measure TH disclosures in the following two different ways: (1) per capita number of TH disclosures (per 10 million people) and (2) per civil servant number of TH disclosures (per 0.1 million civil servants). These measures take account of the fact that the same number of TH events may affect people differently depending on the total population in each province or the total number of government officials in each province. The results are presented in columns 3 and 4 of Table 1, respectively. Both these alternative measures of TH yield statistically significant coefficients (p < 0.05). In sum, whether we use the raw aggregate numbers pertaining to frequency of TH events across provinces or per capita measures, we obtain the same qualitative findings.

Table 1 Baseline results

	Dependent variable: Life satisfaction						
VARIABLES	(1)	(2)	(3)	(4)	(5)		
QTH	-0.008	-0.011*			-0.012*		
	(0.008)	(0.006)			(0.006)		
Per capita QTH			-0.064**				
			(0.028)				
Per civil servant QTH				-0.073**			
				(0.035)			
Political trust					0.037***		
					(0.002)		
Provincial controls							
Contextual corruption		-0.520**	-0.539**	-0.541**	-0.494**		
		(0.208)	(0.201)	(0.202)	(0.203)		
Log per capita GDP		-0.033	-0.007	-0.020	-0.064		
		(0.200)	(0.188)	(0.187)	(0.191)		
GDP growth rate		0.002	-0.000	0.001	0.002		
		(0.007)	(0.007)	(0.007)	(0.008)		
Government fiscal size		-0.727	-0.552	-0.636	-0.710		
		(0.635)	(0.618)	(0.622)	(0.680)		
Ratio of public servants		0.248	0.317	0.264	0.303		
		(0.285)	(0.278)	(0.284)	(0.288)		
Individual controls							
Age squared/100		0.036***	0.036***	0.036***	0.032**		
		(0.012)	(0.012)	(0.012)	(0.011)		
Residence		0.021	0.023	0.023	0.025		
		(0.027)	(0.028)	(0.028)	(0.028)		
Hukou (rural=1)		-0.102**	-0.103**	-0.103**	-0.106**		
		(0.047)	(0.047)	(0.047)	(0.046)		
Log per capital family income		0.010	0.010	0.010	0.010		
		(0.007)	(0.007)	(0.007)	(0.006)		
CPC member		0.054	0.054	0.054	0.044		
		(0.050)	(0.050)	(0.050)	(0.048)		
CFPS Interval		0.002	0.002	0.002	0.002		
		(0.004)	(0.004)	(0.004)	(0.004)		
Education level		Yes	Yes	Yes	Yes		
Month effect	Yes	Yes	Yes	Yes	Yes		
Individual FE	Yes	Yes	Yes	Yes	Yes		
Observations	41,724	41,724	41,724	41,724	41,724		
Number of persons	10,431	10,431	10,431	10,431	10,431		
Within R-squared	0.122	0.124	0.124	0.124	0.131		

*Note.* Robust standard errors clustered at province level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The measurements of all provincial control variables and individual control variables are displayed in Table A2, except for family per capita income and per capita GDP, which have been log-linearised.

For ease of presentation, we focus the following discussion on effect sizes based on the results presented in column 2 relating to the estimated impact of TH events as opposed to the per capita measures presented in column 3 and 4. Numerically, our estimates in column 2 suggest that investigating one additional provincial official would reduce local residents' life satisfaction by an average of 0.011 points on a five-point scale. To help contextualise this overall estimated effect

size, we compare it with the estimated impact of a rural *Hukou* status on individual life satisfaction. The *Hukou* system is a discriminating institution designed to control population movements in contemporary China. It deprives the rural population as well as rural-to-urban migrants of access to education, healthcare services, retirement benefits as well as other public services enjoyed by the original urban population (Afridi et al., 2015). Rural hukou has been shown to have a significant and substantive negative estimated impact on individual life satisfaction (e.g., see Tani, 2016). This can also be observed in our own results where having a rural *Hukou* status attracts a significantly negative coefficient ( $\beta = -0.102, p = 0.040$ ). Our estimates suggest that the disutility suffered from observing the investigation of one additional provincial official is equivalent to 11% of the individual well-being cost of having a rural *Hukou* status.

Our measure of contextual corruption is also negatively correlated with individual life satisfaction. The effect size is considerable, a reduction of one standard deviation in the contextual corruption level is equivalent to 60% of the impact of having a rural *Hukou* status. This is in keeping with much of the existing research based on Chinese data and beyond (see Section 1).

Given our later analysis of the moderating role of political trust it is worth highlighting the direct relationship between this variable and individual life satisfaction. We consider it in Specification 5. Its coefficient is positive and statistically significant ( $\beta = 0.037$ , p = 0.000). The estimated effect size also appears substantial. A one-point reduction in political trust is equivalent to 36% of the individual well-being cost of having a rural *Hukou* status.

#### 5.2 The moderating role of political trust

Next, we examine the moderating role of political trust. Here we simply add an interaction term  $(QTH \times PT)$  to our baseline model. As illustrated in column 1 of Table 2, this interaction term attracts a statistically significant coefficient ( $\beta = 0.006$ , p = 0.000). This indicates that the signalling effect of TH disclosures on life satisfaction depends on the individual's level of political trust. Numerically, people with the lowest level of political trust are predicted to score 0.043 points lower on the life satisfaction scale as they witness an additional TH disclosure. This would be equivalent to 43 % of the estimated impact of a rural *Hukou* status. By contrast, those with the strongest political trust enjoy an estimated increase of 0.021 in life satisfaction (20% of the rural *Hukou* impact). Overall, our estimates suggest that for those with a self-reported political trust

score lower than 7 on the 11-point scale (73% of the population, see Appendix Figure A1), a TH event is estimated to diminish their life satisfaction

One concern when it comes to identifying the moderating role of political trust is that people's political trust itself might be influenced by the disclosure of TH. We directly check this issue by regressing political trust on TH disclosures (*QTH*). The results in columns 2 and 3 of Table 2 show that there is no significant correlation between TH disclosures and political trust.

	(1)	(2)	(3)
VARIABLES	Life satisfaction	Political trust	Political trust
QTH	-0.043***	0.010	0.011
	(0.010)	(0.023)	(0.024)
$QTH \times political trust$	0.006***		
	(0.001)		
Political trust (PT)	0.029***		
	(0.003)		
Provincial controls	Yes		Yes
Individual controls	Yes		Yes
Month effect	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Observations	41,724	41,724	41,724
Number of persons	10,431	10,431	10,431
Within R-squared	0.132	0.004	0.006

Table 2 The moderating role of political trust

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

#### 5.3 Heterogeneity analysis

Having documented the population level impact of TH disclosures, and also the moderating role of political trust, we now examine whether the estimated mental well-being effect of TH disclosures varies across different socio-demographic subgroups. To this end, we separately interact *QTH* with *female, age, rural Hukou, family per capita income (FPCI)* and *CPC member*, respectively. The results are presented in Table 3.

We first look at whether gender plays a role in predicting the degree to which people are affected by TH events in their province. The results in column 1 show that there is no significant difference between males and females when it comes to the impact of TH disclosures for life satisfaction. In column 2, we can see that the interaction of *QTH* with *age* produces a positive and statistically significant coefficient ( $\beta = 0.001$ , p = 0.000). This indicates that comparatively older individuals are more likely to view TH disclosures as a positive signal. A possible

explanation is that older people in contemporary China have long been exposed to government propaganda and hence trust the government more. It might also be that older people are relatively more reliant for news on state-controlled television, which conveys TH news unambiguously as a story of government success, unlike social media which allows for a greater plurality of opinions even in China. Note, however, that these explanations as well as all following suggestions for reasons for subgroup differences are speculative and derived ex post.

Next, we examine whether the mental well-being effect of TH disclosures diverges between people with different types of *Hukou* status. The results in column 3 show that the interaction effect of TH disclosures and a rural *Hukou* status is positive and statistically significant ( $\beta = 0.020$ , p = 0.006). This suggests that people with a rural *Hukou* status experience a smaller estimated reduction in their mental well-being when exposed to TH disclosures in their province. Similar to the elderly, most rural *Hukou* holders are also more reliant on state-controlled television than the urban population as they live in rural areas. What is more, they are usually in an unfavourable socio-economic position and hence more likely to have suffered the consequences of corruption which is why they might welcome anti-corruption investigations particularly. The interaction term of *family per capita income (FPCI)* and *QTH* attracts a negative coefficient suggesting that poorer individuals suffer to a lesser extent from TH disclosures. Similar to the finding in relation to *Hukou* status, disadvantaged groups may be more likely to see the anti-corruption campaign as a positive signal. However, this is not a statistically significant difference ( $\beta = -0.005$ , p = 0.115).

	(1)	(2)	(3)	(4)	(5)
VARIABLES	A= Female	A= Age	A= rural <i>Hukou</i>	A= FPCI	A= CPC member
QTH	-0.016**	-0.082***	-0.027***	0.034	-0.009
	(0.006)	(0.022)	(0.009)	(0.028)	(0.006)
$QTH \times A$	0.008	0.001**	0.020***	-0.005	-0.026
	(0.007)	(0.000)	(0.007)	(0.003)	(0.016)
Provincial controls	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes
Month effect	Yes	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes	Yes
Observations	41,724	41,724	41,724	41,724	41,724
Number of persons	10,431	10,431	10,431	10,431	10,431
Within R-squared	0.124	0.124	0.124	0.124	0.124

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Age squared is not controlled for in column 2. Family per capita income and per capita GDP have been log-linearised.

Last, we check whether the well-being effect of TH disclosures is different for CPC members. The motivation here is that CPC members are the main target of anti-corruption policies in China (Li et al., 2007) and so they might fear anti-corruption actions. However, in column 5, we can see that the coefficient of the interaction term is statistically insignificant.

#### 6. Robustness checks and further analyses

In this section, we discuss the results from a series of additional analyses designed to test the robustness of our main findings from our baseline analysis (column 2 in Table 1). We also repeat all the additional analyses described below when it comes to our examination of the moderating effect of political trust (see column 1 of Table 2). For parsimony, these results in relation to trust are not discussed below but are presented in Appendix Table A10.

#### 6.1 Do province characteristics predict Tiger-Hunting?

Notwithstanding the many reasons for the arbitrariness (and hence randomness) of TH across provinces as described in Sections 2 and 4, as well as our detailed set of control variables, there might still be a concern that an unobserved confounder predicts the provincial frequency of TH and life satisfaction. We follow a common approach in demonstrating exogeneity by showing that the frequency of TH is unrelated to a series of important provincial level variables (e.g., Colonnelli & Prem, 2022). We do so by regressing the provincial TH (number of TH events in each province) which we label as  $PQTH^{12}$  on a number of provincial characteristics.

Beyond the provincial controls included in our baseline estimation of life satisfaction above, we add total population (log-linearised), average years of schooling, economic openness (measured by the logarithm of the total volume of imports and exports), money supply (measured by logarithm of loans balance of financial institutions) and the quality of the institutional environment (measured by marketisation index). All data come from the China Statistical Yearbook except for the marketisation index, which is obtained from Wang et al. (2018). The descriptive statistics of these variables are presented in Appendix Table A7. All explanatory

 $<sup>^{12}</sup>$  Note that this is somewhat different from our key variable *QTH*, which differs even across individuals from the same province interviewed in the same year dependent on the date of the previous and the current CFPS interview. *PQTH* is the exact frequency of TH in each province in a certain year.

variables (EV) are lagged by one year considering TH could happen in the early months of a year and the investigating process also takes some time before it is publicly disclosed.<sup>13</sup>

The results are presented in Appendix Table A8. In column 1, we regress provincial TH (PQTH) on our contextual corruption variable. There is no significant relationship between the two variables. Anti-corruption investigations of high-ranking officials appear largely independent of the actual corruption level in a certain province. We include all other provincial factors in column 2. None of these variables are significantly related to PQTH which again suggests that TH is an exogenous event.

Considering *PQTH* is truncated at 0, we also use a Tobit model for our regression analysis. The results are presented in column 3. Again, we observe no significant relationship between the provincial variables and PQTH. Additionally, we further lag all explanatory variables for two years, as decisions about whether to investigate provincial officials may have begun significantly before they were disclosed to the public. We still do not see any significant correlations between these macro factors and *PQTH* (see Columns 4-6). To sum up, we find that TH is unrelated to a variety of important provincial variables. Coupled with the randomness associated with the CFPS interview timing, this supports the assumption of TH events being exogenous to provincial characteristics.

#### 6.2 Importance of province

We now examine whether the fact that the political status of provinces varies affects our estimates. The political status of a province is reflected in the political ranking of the top leader of the provincial government. Among the 25 provinces covered in this study, Beijing, Shanghai, Guangdong, Tianjin and Chongqing possess the highest political status, with the top leader (party secretary) of these five provinces being a member of the political status do not necessarily correlate with the frequency of TH events, investigating senior officials in these provinces could serve as a stronger signal and attract more media attention such that the marginal effect of the TH signal on mental well-being is relatively strong. In order to check if our results relating to the impact of TH for life satisfaction are driven by these areas, we dropped observations from these five provinces.

<sup>&</sup>lt;sup>13</sup> We also conduct tests using contemporaneous values for all explanatory variables and the results are similar except that the GDP growth rate shows a significantly negative correlation with TH events. But in Table 1 we can see that the coefficient of GDP growth rate is close to zero and also statistically insignificant.

The results are presented in column 2 in Appendix Table A9. The corresponding estimates are statistically indistinguishable from our baseline results (full sample) in column 1. This suggests that our findings are not driven by high-political status regions.<sup>14</sup>

#### 6.3 Neighbouring Tiger-Hunting

Our baseline specification is designed to capture the effect of TH disclosures on residents in the corresponding provinces. However, as a result of geographical proximity, one might expect that TH in neighbouring provinces may also impact mental well-being given that these events are publicised nationally. Such spill-over effects should not bias our estimates of the impact of provincial disclosures given the randomness of TH events across provinces as demonstrated earlier. Nevertheless, if TH events in neighbouring provinces also matter, then the frequency of TH exposures and consequential changes in well-being are not limited to TH events occurring in the same province. To examine this possibility, we manually calculated the frequency of TH disclosures in neighbouring provinces<sup>15</sup> and estimated its relationship with life satisfaction. The results are presented in column 3 in Appendix Table A9. Here we can see that TH disclosures in neighbouring provinces also appear to influence life satisfaction, albeit to a lesser extent than disclosures in one's own provinces.

#### 6.4 Does Tiger-Hunting affect well-being over the long term?

In our baseline analysis, we looked at the direct relationship between TH disclosures and individual life satisfaction. One may also be interested in whether the estimated well-being impacts associated with TH events continue to impact individuals over the longer term. Given our short panel of four waves, we are unable to analyse the effect of recent TH events over a long time horizon. But we can provide some suggestive evidence by regressing individual life satisfaction to the one-period lagged *QTH*, i.e., we can capture the effect of TH disclosures that happened roughly 2 to 4 years ago. The corresponding results are presented in Appendix Table A9 (column 4). Lagged *QTH* attracts a statistically insignificant coefficient and one that is close to zero in absolute terms. This

<sup>&</sup>lt;sup>14</sup> Moreover, people from the five relatively large provinces of Henan, Gansu, Guangdong, Shanghai and Liaoning are oversampled in the CFPS. It is therefore reassuring to note that we would obtain the same results based on a sample excluding these five provinces (see Appendix Table A11).

<sup>&</sup>lt;sup>15</sup> We define two provinces as neighbouring provinces once they are directly bordered.

suggests that what principally matters for people's mental well-being are current or recent TH disclosures.

#### 6.5 Is there a deterring effect?

Up to here, we have focused on the 'signal' effect when it comes to the relationship between TH disclosures and life satisfaction. Another possible channel of influence is through an actual deterrence of corruption. If the public disclosure of TH events in provinces led to a reduction in actual corruption in those provinces, then this could benefit the mental well-being of the local population. To examine this idea, we look at the direct correlation between TH and our measure of contextual corruption at the provincial level. The results are presented in Appendix Table A12 and show that there is no significant relationship between *PQTH* and contemporaneous or future (up to 4-years later) contextual corruption. This provides some initial evidence to suggest that TH disclosures are not leading to a change in actual corruption.

Next, we relate TH to data on actual individual experience of corruption. We do this by taking advantage of two questions in the CFPS (available for 2012, 2014 and 2016): Respondents are asked (1) Whether they experienced unreasonable delay or stalling at a government agency in the past year; (2) Whether they experienced unreasonable charges paid to a government agency in the past year. These two experiences are coded as *Stalling* and *Charge*, respectively, with '1' indicating having had a corruption experience and '0' otherwise.

The descriptive statistics of these variables are presented in Appendix Table A7. We employ a probit model to evaluate the relationship between TH disclosures and the probability of an individual experiencing *Stalling* or *Charge*, respectively. The results are presented in Appendix Table A13. The effect of *QTH* is insignificant which again supports the premise that variation across provinces in the public disclosure of these anti-corruption investigations is not having a significant impact on the actual prevalence of corruption. Importantly, this shows again that TH disclosures impact the life satisfaction of citizens through signalling effects, rather than any actual change of their corruption experience and/or living conditions.

#### 7. Conclusion

We examined whether the public disclosure of anti-corruption investigations in China affects individuals' self-reported life satisfaction. We examined this through the prism of signalling theory,

wherein the Chinese government is looking to signal 'good intentions' through the public disclosure and dissemination of anti-corruption investigations.

Overall, our results demonstrate that the public disclosure of anti-corruption investigations reduces population-level mental well-being. We show that the estimated impact of public disclosures depends, however, to a large degree on a person's political trust. For those with low political trust, the disclosure of anti-corruption investigations is associated with declining satisfaction, but for those with high political trust, it appears well-being enhancing. Our proposed explanation is that anti-corruption disclosures could produce both a countering and a salience effect when it comes to an individual's perception of the actual corruption level. In keeping with confirmation bias, we suggest that whether people will focus on the 'good' or 'bad' aspects of the signal will depend on their existing perception of the trustworthiness of the government. The lower the level of political trust the more strongly the government's true intentions may be questioned which ultimately could eliminate the countering effect.

One implication of these findings is that when signalling good intentions, such as disclosing policy actions aimed at addressing issues of public concern, a government may also draw attention to the problem in question. In the process, the well-being effect of its action may well be negative, which potentially reduces public support (Liberini et al., 2017, Herrin et al., 2018). This raises the question whether the Chinese government is well-advised to widely publicise anti-corruption campaigns, i.e., whether a rational policy-maker would use 'Tiger-Hunting' signals as a way to consolidate political support.

On a more general note, our findings imply that a policy action may have unintended side effects for governments if the issue they seek to tackle becomes more salient in the process, in particular in the absence of political trust. An interesting avenue for future work would be to assess whether similar findings are observable when it comes to additional efforts by governments both in China and elsewhere to tackle economic or social issues of public concern. If tackling a specific problem (e.g., tax avoidance, income inequality) serves to highlight its prevalence, then in the presence of low political trust such efforts may not necessarily increase support for the government or serve to improve self-reported well-being.

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#### **Appendix: For Online Publication**

Table A1 Distribution of TH across different provinces in China (2010-2018)

Province	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Panel A: 25 Provinces covered in this study (in line with CFPS)										
Beijing						1			1	2
Tianjin					1		2	1	1	5
Hebei					1	2	1	2	1	7
Shanxi					7	1				8
Liaoning					1		4	2		7
Jilin		1				2		1	1	5
Heilongjiang					2	1				3
Shanghai						1		1		2
Jiangsu				1	1	1	1	1	1	6
Zhejiang	1					1	1			3
Anhui				1	1		2	1		5
Fujian						2				2
Jiangxi	1			1	2	1	1		1	7
Shandong		1			1	1	1		1	5
Henan					1		2		2	5
Hubei				2		1	1	1		5
Hunan				1	1		1			3
Guangdong			1		2		2		1	6
Guangxi				1		1	1		1	4
Chongqing			1		1			3		5
Sichuan		1	1	2	1	1	2			8
Guizhou				1			1		2	4
Yunnan					2	1				3
Shaanxi					1	1		1	2	5
Gansu						1		2	1	4
Panel B: Provin	ices not co	overed in t	his study							
Inner	1			1	1	2			2	7
Mongolia	1			1	1	Z			Z	/
Hainan					2		1			3
Tibet						1				1
Qinghai					1					1
Ningxia						1				1
Xinjiang						1	1	1		3
Total	3	3	3	11	30	25	25	17	18	135

*Note.* We display TH events in all provinces in mainland China in this table, however only 25 provinces (represent 95% the Chinese population) are covered in CFPS and thus only these provinces are included in our empirical study. The numbers in the table denote how many provincial officials have been investigated in each province during a certain year. As illustrated in the table, there are also some high-ranking officials investigated before 2012 but on a far smaller scale than thereafter. Investigations that happened before 2012 were also widely publicised by state media.

Table A2 Descriptive statistics

X7			Mean			CD	Min	M
variables -	All	2012	2014	2016	2018	SD	Min	Max
Observations: 41,724								
Panel A. key variables								
Frequency of TH (QTH)	1.188	0.208	0.895	2.233	1.416	1.273	0	7
Per capita QTH (per 10	0.241	0.020	0.184	0.421	0.210	0.207	0	2 565
million people)	0.241	0.050	0.104	0.451	0.519	0.297	0	2.303
Per civil servant QTH (per	0.200	0.030	0.151	0 364	0.256	0 229	0	2 292
0.1 million civil servant)	0.200	0.050	0.1.7.1	0.504	0.250	0.22)	0	2.292
LS	3.745	3.352	3.849	3.680	4.097	1.046	1	5
Political trust	5.060	4.925	5.031	5.086	5.197	2.622	0	10
Panel R individual controls								
Age	51 35	48 35	50 35	52.35	54 35	13 37	18	93
Female (female=1)	0.517	0.517	0.517	0.517	0.517	/	0	1
Per Capital Family income								- 
(10k/Yuan)	1.494	1.101	1.349	1.502	2.025	1.959	0	84.7
CPC member	0.101	0.094	0.093	0.103	0.116	/	0	1
Residence (urban=1)	0.476	0.450	0.472	0.483	0.497	/	0	1
Hukou (rural=1)	0.693	0.698	0.694	0.691	0.690	/	0	1
Education level								
Illiteracy	0.267	0.271	0.271	0.271	0.255	/	0	1
Primary school	0.237	0.238	0.239	0.238	0.234	/	0	1
Middle school	0.287	0.289	0.284	0.282	0.292	/	0	1
High school	0.137	0.138	0.139	0.136	0.137	/	0	1
Occupational college	0.044	0.041	0.042	0.045	0.048	/	0	1
University	0.028	0.023	0.026	0.028	0.034	/	0	1
CFPS interval (in months at	24 221	25 861	23 053	23 925	24 048	2 042	16	32
individual level)	21.221	25.001	25.055	23.923	21.010	2.012	10	52
Panel C. provincial controls								
Contextual (actual)		0.04	0.400		0.044			
corruption	0.388	0.361	0.400	0.427	0.366	0.120	0.170	0.839
Government fiscal size	0.220	0.213	0.213	0.219	0.237	0.081	0.112	0.437
Ratio of civil servants	1.181	1.116	1.176	1.200	1.232	0.232	0.786	2.182
Per capita GDP (10k/Yuan)	4.635	3.414	4.443	5.123	5.560	2.208	1.40	11.96
GDP growth rate	9.086	12.45	9.894	7.480	6.522	2.897	0.85	16.90

*Note.* The frequency of TH events as well as all provincial variables over the past two years are matched to each wave of CFPS (see Sections 3 and 4).

	Dependent variable: Life satisfaction						
VARIABLES	(1)	(2)	(3)	(4)			
QTH	-0.008			-0.033***			
	(0.006)			(0.011)			
Per capita QTH		-0.051**					
		(0.022)					
Per civil servant QTH			-0.061**				
			(0.029)				
QTH × political trust				0.005**			
				(0.002)			
Provincial controls	Yes	Yes	Yes	Yes			
Individual controls	Yes	Yes	Yes	Yes			
Month effect	Yes	Yes	Yes	Yes			
Individual FE	Yes	Yes	Yes	Yes			
Observations	80,296	80,296	80,296	80,296			
Number of persons	26,025	26,025	26,025	26,025			
Within R-squared	0.116	0.116	0.116	0.125			

Table A3 Robustness check: Estimation based on unbalanced panel

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

	Dependent variable: Life satisfaction				
VARIABLES	(1)	(2)			
QTH	-0.017**	-0.052***			
	(0.008)	(0.014)			
$QTH \times political trust$		0.007***			
-		(0.002)			
Provincial controls	Yes	Yes			
Individual controls	Yes	Yes			
Month effect	Yes	Yes			
Individual FE	Yes	Yes			
Observations	31,293	31,293			
Number of persons	10,431	10,431			
Within R-squared	0.124	0.132			

Table A4 Robustness check: Excluding pre-2012 data of TH disclosure (drop CFPS 2012)

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

	Dependent variable: Life satisfaction			
VARIABLES	(1)	(2)		
QTH	-0.015*	-0.054***		
	(0.008)	(0.011)		
$QTH \times political trust$		0.007***		
-		(0.001)		
Provincial controls	Yes	Yes		
Individual controls	Yes	Yes		
Month effect	Yes	Yes		
Individual FE	Yes	Yes		
Observations	41,724	41,724		
Number of persons	10,431	10,431		
Within R-squared	0.124	0.132		

Table A5 Robustness check: Measurement error of QTH

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

	Dependent variable: Life satisfaction						
	(1)	(2)	(3)	(4)	(5)	(6)	
VARIABLES	FE-	Ologit	Randor	n effect	HLM		
QTH	0.975*	0.904***	-0.012*	-0.043***	-0.010*	-	
	(0.014)	(0.024)	(0.007)	(0.011)	(0.005)	(0.009)	
$QTH \times political trust$		1.015***		0.006***		0.005***	
		(0.004)		(0.002)		(0.001)	
Political trust		1.067***		0.044***		0.055***	
		(0.008)		(0.003)		(0.003)	
Provincial controls	Yes	Yes	Yes	Yes	Yes	Yes	
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	
Month effect	Yes	Yes	Yes	Yes	Yes	Yes	
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	41,724	41,724	41,724	41,724	41,724	41,724	
Number of persons	10,431	10,431	10,431	10,431	10,431	10,431	
Overall R-squared	-	-	0.041	0.088	-	-	
Log likelihood	-22222	-22006	-	-	-58972	-58441	

Table A6 Robustness check: Different econometric models

*Note.* We report the odds ratio rather than coefficients in columns 1 and 2. Robust standard errors clustered at province in parentheses in column 1 to 4. Standard errors in column 5 and 6. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial controls and individual controls are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

Variables	Observations	Mean	SD	Min	Max
Panel A Variables used in Table A8					
PQTH	225	0.529	0.840	0	7
Contextual corruption level	225	0.362	0.124	0.165	0.886
Per capital GDP (10k/Yuan)	225	4.706	2.460	1.122	12.62
GDP growth rate	225	9.941	2.933	-2.500	17.40
Government fiscal size	225	0.215	0.073	0.094	0.443
Ratio of civil servants	225	1.161	0.293	0.753	2.202
Population (10k)	225	5,135	2,501	1,228	11,169
Monetary supply (billion/Yuan)	225	28,60	21,55	3,65	12,603
Marketization index (10-points scale)	225	6.729	1.670	3.260	10
Trade volume (billion/Yuan) (Total volume of export and import)	225	927	1,513	186	7,938
Average schooling years	225	8.838	1.203	4.222	12.39
Panel B Variables used in Table A13					
Stalling	30,864	0.169	/	0	1
Charge	30,891	0.094	/	0	1

Table A7 Descriptive statistics of additional variables in robustness checks

	Dependent variable: provincial frequency of TH						
	One-y	year Lagged l	EV	Two-years Lagged EV			
	(1)	(2)	(3)	(4)	(5)	(6)	
VARIABLES	FE	FE	Tobit	FE	FE	Tobit	
Contextual corruption level	0.214	0.027	-0.375	1.073	1.224	1.059	
	(0.972)	(1.138)	(1.366)	(0.962)	(1.117)	(1.382)	
Ratio of public servants		1.742	-0.346		-0.003	-0.208	
		(1.484)	(0.711)		(0.991)	(0.742)	
Government fiscal size		-1.099	0.433		-2.999	0.789	
		(5.747)	(5.222)		(3.860)	(5.176)	
GDP growth rate		-0.050	-0.034		0.047	0.136	
		(0.045)	(0.080)		(0.047)	(0.088)	
Log per capital GDP		0.612	0.649		2.274	0.706	
		(1.141)	(1.555)		(1.627)	(1.563)	
Log Population		2.554	0.700		3.263	0.744	
		(2.540)	(0.954)		(2.708)	(0.923)	
Log Monetary supply		-0.225	-0.232		-0.447	0.147	
		(0.675)	(0.998)		(1.030)	(0.936)	
Marketization index		-0.142	-0.111		-0.032	-0.056	
		(0.137)	(0.262)		(0.161)	(0.250)	
Log Trade volume		-0.060	-0.066		-0.354	-0.152	
		(0.341)	(0.389)		(0.296)	(0.381)	
Average schooling years		0.010	0.103		0.010	0.054	
		(0.062)	(0.113)		(0.062)	(0.119)	
Year-effect	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	225	225	225	225	225	225	
Number of provinces	25	25	25	25	25	25	
Log likelihood	-	-	-216.60	-	-	-215.64	
Within R-squared	0.179	0.198	-	0.182	0.206	-	

Table A8 Provincial characteristics and TH events

*Note.* Robust standard errors in parentheses in column 1, 2, 4, 5, standard errors in column 3, 6. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. In column 1 to 3, the period of all provincial explanatory variables is 2009 to 2017, and it is 2008 to 2016 in columns 4 to 6.

	Dependent variable: Life satisfaction					
_	(1)	(2)	(3)	(4)		
VARIABLES	Baseline	Without five special provinces	Neighbouring effect	Long term effect		
QTH	-0.011*	-0.012**		-0.023**		
	(0.006)	(0.006)		(0.009)		
Neighbouring QTH			-0.007*			
			(0.004)			
Lagged QTH				-0.004		
				(0.007)		
Provincial controls	Yes	Yes	Yes	Yes		
Individual controls	Yes	Yes	Yes	Yes		
Month effect	Yes	Yes	Yes	Yes		
Individual FE	Yes	Yes	Yes	Yes		
Observations	41,724	34,852	41,724	31,293		
Number of persons	10,431	8,713	10,431	10,431		
Within R-squared	0.124	0.125	0.124	0.065		

Table A9 Robustness check and further analyses

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised. All provincial control variables in column 4 are lagged for one period, in line with the key variable of lagged *QTH*.

	Dependent variable: Life satisfaction				
	(1)	(2)	(3)	(4)	
VARIABLES	Baseline	Without five special	Neighbouring	Long term	
		provinces	effect	effect	
QTH	-0.043***	-0.046***		-0.023***	
	(0.010)	(0.010)		(0.008)	
$QTH \times political trust$	0.006***	0.006***			
	(0.001)	(0.002)			
Neighbouring QTH			-0.020***		
			(0.005)		
Neighbouring QTH × political trust			0.002***		
			(0.000)		
Lagged QTH				0.002	
				(0.016)	
Lagged QTH $\times$ political trust				-0.001	
				(0.002)	
Provincial controls	Yes	Yes	Yes	Yes	
Individual controls	Yes	Yes	Yes	Yes	
Month effect	Yes	Yes	Yes	Yes	
Individual FE	Yes	Yes	Yes	Yes	
Observations	41,724	34,852	41,724	31,293	
Number of persons	10,431	8,713	10,431	10,431	
Within R-squared	0.124	0.125	0.124	0.065	

 Table A10 Robustness check and further analysis: the moderating role of political trust

*Note.* Robust standard errors clustered at the province level in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial control variables and individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

	Dependent variable: Life satisfaction			
VARIABLES	(1)	(2)		
QTH	-0.013*	-0.042***		
	(0.006)	(0.012)		
$QTH \times political trust$		0.006***		
-		(0.002)		
Provincial controls	Yes	Yes		
Individual controls	Yes	Yes		
Month effect	Yes	Yes		
Individual FE	Yes	Yes		
Observations	21,120	21,120		
Number of persons	5,280	5,280		
Within R-squared	0.124	0.134		

Table A11 Robustness check: Excluding five provinces that are over-sampled

*Note.* The five oversampled provinces are Henan, Gansu, Guangdong, Shanghai and Liaoning. Robust standard errors clustered at province level in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Provincial control variables, individual control variables are the same as in Table 1 and are defined according to Table A2. Family per capita income and per capita GDP have been log-linearised.

Table A12 Check on deterring effect: Evidence at provincial level

	Dependent variable: Contextual (Provincial) corruption level				
	(1)	(2)	(3)	(4)	(5)
The number of lagged years	Current year	One year	Two years	Three years	Four years
PQTH	-0.006	-0.003	0.006	0.007	0.005
	(0.006)	(0.005)	(0.004)	(0.006)	(0.010)
Year effect	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes
Observations	200	175	150	125	100
Number of provinces	25	25	25	25	25
Overall R-squared	0.262	0.270	0.264	0.287	0.365

*Note.* Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. As the Procuratorial Yearbook of China is no longer available after 2018, our sample period is 2010 to 2017 in this table although we have data of TH in 2018. To avoid cutting off any potential transmission channels, we do not include any additional controls in this estimation.

	Dependent Variable (DV): Individual direct corruption experience				
	Curre	Current DV		One period lagged DV	
	(1)	(2)	(3)	(4)	
VARIABLES	Stalling	Charge	Stalling	Charge	
QTH	0.002	0.001	0.006	0.004	
	(0.002)	(0.001)	(0.005)	(0.003)	
Provincial controls	Yes	Yes	Yes	Yes	
Individual controls	Yes	Yes	Yes	Yes	
Month effect	Yes	Yes	Yes	Yes	
Observations	30,864	30,891	20,576	20,594	
Number of persons	10,288	10,297	10,288	10,297	
Log pseudo likelihood	-12791	-8741	-13991	-9133	

Table A13 Check on deterring effect: Evidence at individual level

*Note.* The coefficients reflect marginal effects. Robust standard errors clustered at province level in parentheses. \*\*\* p<0.01, \*\*p<0.05, \* p<0.1. Provincial control variables and individual control variables are the same as in Table 1 and are described in Table A2. Family per capita income and per capita GDP have been log-linearised.



### Figure A1 Distribution of different levels of political trust

Note. These numbers are calculated based on our balanced panel sample covering CFPS 2012 to 2018.