PUBLIC TRUST IN A GOVERNMENT UNDER DEMOCRATIC TRANSITION: TRENDS AND IMPLICATIONS

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Abstract

Declining public trust in government has been a well-documented fact for advanced democracies in Western Europe, North America, and Japan since the 1960s. While hypotheses abound, none has been confirmed as the dominant explanation for any single country. This study extends the literature on political trust to Taiwan. With a recently developed methodology for analyzing ordinal ratings of trust pooled across institutions, respondents, and surveys, we chart for the first time the evolution of political trust over a period of 14 years during Taiwan's rapid democratic transition. Applying a random-effects ordered logistic regression model to a pool of 49 different targets of trust in 33 general-purpose surveys, we document a widespread decline in political trust. We also compare the trends across different types of institutions: elected and non-elected government, government and non-government, organizational and professional, institutional and generalized others. Our model-based scaling of trust ratings, aggregation of institutions, and specification of temporal trends have produced two major findings: (1) a remarkable convergence of temporal trends (but not the levels of trust) across very different segments of the government, and (2) a decline of public trust that started before 2000 and goes beyond government institutions. Even though definitively identifying the explanation(s) for the findings requires additional empirical research, the present findings do not square well with explanations that emphasize *institutional-specific, segment-specific, or episodic* events, factors, or transformations.

Introduction

The twentieth century was one of rapid and radical transformations for the Chinese. Both on and off the Mainland, Chinese societies have undergone tumultuous changes that are variegated but similarly profound. In keeping with one of the most powerful and widespread global trends of the last century, Chinese societies have been confronted with a surging demand for democratization, which has

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developed into a prime focus of research for students of Chinese societies, which now includes not only political scientists, but also sociologists.

Democracy is not a mere list of rules and institutions, and the implementation of democratic rules does not guarantee the healthy functioning of governments or the satisfaction of its citizens. The social underpinnings of a democracy do not automatically come with the establishment of a democratic regime, as de Tocqueville ([1840] 1990) recognized in his analysis of American democracy in the nineteenth century. Surprisingly, social and political theorists have yet to come to a consensus about the social foundations of democracy. An area of intense research is the problem of trust in a democratic society, which has been motivated in part by the ubiquitous and surprisingly long-term decline of public trust in the governments of advanced democracies (Pharr and Putnam 2000; Paxton 2002). This is alarming because public trust in government, or political trust, is widely believed to be crucial for promoting a cooperative society, a prosperous economy, and a democratic government (Levi and Stoker 2000). At a minimum, the decline of political trust may be symptomatic of serious troubles in the working of a democratic system (Putnam 2000).

What do we know about political trust in Chinese democracies? By the end of the 1990s, Taiwan has emerged as the most notable democracy in East Asia, both because of its dramatic process of democratization and its political and economic prominence. Within the short span of a decade, Taiwan has shifted from an authoritarian society under martial law to an open society with elected governments at all levels. The island's first presidential election was held in 1996 and the party leadership of Taiwan shifted in 2000 when the decades-long dominance of the Nationalist Party (i.e., the Kuomintang, KMT) ended. The shift was peaceful and orderly—quite different from the chaos typical of the socialist model in which a state undergoes a wrenching dual transition to a market economy and a democratic polity.

Despite the accumulation of substantial data, particularly in Taiwan, the study of political trust in Chinese societies is only in its infancy (Chang 1997; Chang 2000; Sheng 2003). To spur further research, our objective is to produce a model-based quantitative portrait of the changing public trust in government during the democratic transition of Taiwan. This model-based estimation of political trust will

efficiently combine information from comparable items included in diverse surveys, apply conventional scaling assumptions and a new methodology to obtain a parsimonious representation of trends with and without control variables, and therefore provide a set of baseline findings for more comprehensive and rigorous research on institutional trust in the future.

As we will explain in section two, the problem of trust in government has been one of the most central and actively researched issues in the study of democracy and social change. Section three presents an overview of the political context of the Taiwan case and argues that the case will extend the literature for modern democracies. Section four describes the data and the methodology we developed for analyzing the typical survey data on trust in government and other institutions. Section five addresses three substantive questions with the data analysis and discusses the basic implications of the results. Section six concludes the study.

Background

Trust in Government

A conceptual clarification is in order. The theoretical discussion surrounding political trust is potentially confusing because of the flaccid use of the term "trust" in the social sciences. Let us start with what we think trust is not: to be sure, it is not the same as assuming a high probability for what the trusted is likely to do; trust is much more than having confidence in one's prediction of the likely behavior of the trusted. In short, trust is not a positivistic judgment or a projection of what will happen.

For our purposes, trust is a personal action and judgment. Trust always involves a risky bet on another social being (such as a human being or a corporate actor). Trust is risky because it entails a choice to let one's personal interest depend on the choices of the trusted. Following Deutsch (1962), then, we think that trust as an action is to render the truster vulnerable to being betrayed by a person, group, organization, or an institution. Without this element of vulnerability, no trust is involved. As a matter of fact, rational individuals routinely put themselves at risk for the sake of cooperative relations (Coleman 1990). Without the ubiquitous presence of trust, the economy would stall (Granovetter 1985). Trust as a personal judgment

is to evaluate two dimensions of the trusted: (1) a commitment to act in the interest of the truster even when there is opportunity and freedom not to do so; (2) sufficient competency to accomplish what the frosted is entrusted to do.

By trust in government, or political trust, we mean entrusting the government to act competently and in the interest of the truster (which may be personal interests or something as broad and diffuse as the public interest). Consequently, a respondent's expressed trust in government *inherently* combines the respondent's assessments of officials, system designs, and public policies that together define a government. While officials, system designs, and public policies may be conceptually distinguished, the respondent's assessments of these aspects of government are necessarily intertwined. This is analogous to the chicken-and-egg problem of causal ordering. We believe it is futile and theoretically untenable to try to measure the assessments as separate dimensions of trust in government. The two are causally conflated; only their joint or combined effects can be meaningfully identified.

Furthermore, it is important to stress that our position is entirely compatible with analytic questions that distinguish between agency and competency, such as, "Was the change of public trust in the legislature over time period T due to a change in (a) the design of the legislative system, (b) the competence of legislators to work with each other, or (c) the extent to which legislators serve the public interest?" These questions are meaningful because changes in agency may be the key driver of changes for some targets of public trust while changes in competency may be the key driver of changes for other targets, and the relative role of the two kinds of changes for trust in a given target may also vary over time. These analytic questions only require the statistical identification of agency and competency as sources of changing public trust, not as ontologically separable dimensions of trust *per se*.

Our conception of trust in general, and political trust in particular, does not ignore the different causal logics that exist for political and interpersonal trust (Hardin 2000, pp. 32–35), but it does affirm the meaningfulness of speaking of trust beyond simply interpersonal trust. Survey questions on trust in government, institutions, rules, organizations, or groups (Levi and Stoker 2000, p. 476) are as valid as questions on interpersonal trust. Questions on political trust are not surrogates for questions on confidence in government. Survey

questions on political trust solicit the judgments of a respondent about the dual problems of agency and competency that hinge on how a government allocates human and material resources and operates with the respondent's interest in mind. Survey responses to political trust are social facts, not intractable or artifactual noises.

Intellectual and Western Contexts

The problem of trust in government coincides well with the recent surge of interest in the problem of trust in society at large. At least 25 years ago, sociological theorists started to think seriously about the nature of trust (Luhmann 1979; Barber 1983), which was quickly ushered onto the social science main stage. An influential network theorist and economic sociologist first uses the problem of trust to argue for the causal significance of social embeddedness (Granovetter 1985), later a sociological giant joins the bandwagon and brings the problem to bear on a rational choice theory of social control and education (Coleman 1990), and political scientist heavyweights eventually link the problem of trust to economic success, social capital, civil society and democracy (Fukuyama 1995; Putnam 1993, 2000). Even mainstream economists have started to address the issue of trust in their flagship journals (Knack and Keefer 1997; La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997; Glaeser, Laibson, Scheinkman, and Soutter, 2000). Recognizing the strategic payoffs of a firm understanding of trust, the Russell Sage Foundation supports an interdisciplinary group of distinguished sociologists, political scientists, philosophers, and social psychologists to organize work groups and conferences, which have resulted in several books indispensable for research on trust (Braithwaite and Levi 1998; Cook 2001; Hardin 2002, 2004).

For political scientists and policy makers alike, one of the biggest and most recurrent concerns of advanced democracies is the ubiquitous and long-term decline of public trust in government during the last half century. In the case of the United States, Americans maintain a high level of traditional support for American democracy and its constitutional system. However, public trust in more *specific institutions* has sharply declined for more than three decades. Public trust has also declined for the *electoral process* and *leaders of nearly all major institutions* (Nye and Zelikow 1997, p. 278). This broad erosion of trust is also evident in Western Europe and Japan. "Quite apart

from any temporary disenchantment with the present government or dissatisfaction with particular leaders, most citizens in the Trilateral world have become more distrustful of politicians, more skeptical about political parties, and significantly less confident in their parliament and other political institutions" (Pharr, Putnam, and Dalton 2000, p. 18).

Many plausible explanations for the decline have been proposed. The decline is often interpreted as a symptom of systemic distress, or even a crisis of democracy occurring throughout the Trilateral countries (Western Europe, North America, and Japan). Since the famous Trilateral Commission report on the state of democracy (Crozier, Huntington, and Watanuki 1975), political distrust has intensified with every passing decade, yet a definitive explanation remains elusive. The original report was followed by the seminal Lipset and Schneider (1983) study that exemplifies the use of massive survey data to address trust in the American context. Then there was the large-scale collaborative effort of European scholars resulting in a five-volume report entitled *Beliefs in Government* study (Kaase and Newton 1995). Focusing primarily on the American case, a team of mostly Harvard scholars offers a comprehensive assessment of many single-factor hypotheses as well as available evidence for or against the hypotheses (Nye, Zelikow, and King 1997). Taking a broader comparative approach, another team of scholars makes a second attempt to understand the Trilateral decline of political trust (Pharr and Putnam 2000), with a focus on the role of diminishing government performance.

As Kaase and Newton (1995) observe, each period had its popular grand theory or theories about the state and the future prospect of advanced democracy. The grand theories originate from diverse perspectives (Marxist, liberal, and conservative), disciplines (sociology, political science, economics, and philosophy), and intellectual traditions (European and American). This diversity makes it especially remarkable that these theories all are able to offer their own interpretations of the decline in political trust. Unfortunately, the grand "theories are not always explicit about what is cause, what is effect, and what is symptom, but they all see the same sort of features of modern society as cause or effect or symptom . . . in terms of growing mass alienation and anomie, increasing political distrust, political disillusionment, dissatisfaction with democracy, declining political participation, falling membership of established parties, pres-

sure groups, and community groups, an increase in electoral volatility, support for extremist and anti-democratic politics and movements, and a rise of direct political participation, including illegal and violent action" (Kaase and Newton 1995, p. 37). Similar problems are also evident with the single-factor hypotheses and Nye and Zelikow's (1997) synthesis for the American case. It is fair to say that both grand theories and single-factor hypotheses, upon close scrutiny, are only superficially appropriate for understanding the decline of political trust. After decades of scholarly attempt, the theories and hypotheses are still fragmented, their integration muddled, and their evidential adequacy ambiguous. In short, the empirical search for a definitive explanation remains a challenge.[1]

Taiwan—a Fruit Fly for Democracy Research

Against this intellectual background we will focus our empirical study on Taiwan. Taiwan is a prominent Chinese economy and a much publicized example of democratic transition of the Twentieth century. Thus the evolution of political trust in Taiwan is not only of intrinsic interest to scholars of Chinese societies, it should be of value to the study of democratic transition.

Political Context

What kind of political environment and change does Taiwan represent? Due to the centrality of Taiwan in Sino-American relations, the political history of Taiwan is well-known, widely publicized, and reliable overviews are readily available from general reference book and on the internet. Instead of chronicling the historical details, suffice it to remind the reader of the basic government structure and historical milestones that lay the foundations of modern Taiwan.

For 50 years, the Nationalist Party ruled Taiwan when it left the Mainland after losing the civil war to the Communist Party. Much of the political and administrative structure of the KMT government

[1] We do not attempt to extend the major evaluative efforts of Kaase and Newton (1995), Nye et al. (1997), and Pharr and Putnam (2000). A critique and update of these earlier efforts will in itself be a major scholarly project and is therefore beyond the scope of the present article.

in Taiwan was imported directly from the Mainland. In terms of power structure, the government of Taiwan consists of the presidency and five administrative branches (Yuan): Executive, Legislative, Judicial, Examination, and Control. The Executive Yuan is responsible for policy and administration, the Legislative Yuan for law making, the Judicial Yuan for administering the court system, the Examination Yuan for managing the civil service, and the Control Yuan for the critical review and investigation of the Executive Yuan for inefficiency and misconduct. The president has authority over the five branches, including the appointment of the premier who heads the Executive Yuan. Under martial law since 1948, the regime was authoritative and repressive, and for decades the society was considered a police state.

The first critical turn in the democratization of Taiwan occurred in 1986, when the late President Chiang Ching-kuo ended martial law. After this first step, the government moved in earnest to create an open society and a democratic political system, lifting restrictions on the press, personal freedoms, and the organization of oppositional political parties. Indeed, the Democratic Progressive Party (DPP) was formed in 1986 and offered a forceful challenge to the KMT in open elections.

The second critical turn was to subject legislative positions in the central government to open elections. The Legislative Yuan was first elected in the 1940s and played only the nominal role as an independent branch for making laws. Not until 1992 was there a direct election of all seats (there was an open election of 130 supplementary new seats in 1989). Since the implementation of Taiwan's direct election system, the Legislative Yuan has become increasingly activist and assertive relative to the Executive Yuan. In each subsequent election, the main opposition party—the DPP—won a significant share of seats. In 2001, the DPP won 88 seats, whereas the KMT only 66. Two new parties, the People First Party (PFP) and the Taiwan Solidarity Union (TSU) won 45 and 13 seats, respectively, and the DPP was unable in most instances to reach a majority support for its policy positions.

The first National Assembly was elected in 1947 and was responsible for choosing the president and amending the constitution. The second National Assembly, however, was not elected until 1991. This National Assembly amended the Constitution in 1994, clearing the way for the first *direct* presidential election in 1996. Remarkably, the

members of the National Assembly voted in 2000 to end their terms without holding new elections, effectively abolishing the National Assembly until the Legislative Yuan calls for a new session for constitutional amendments as it did in 2004. The vote also granted the Legislative Yuan almost exclusive authority over law-making, which will be complete according to the 2004 blueprint for constitutional amendments that will eliminate the National Assembly for good. By the time this article is in print, the National Assembly currently in session should have completed the constitutional amendments.

The most critical turn of all was another momentous political event that took place in 2000. Incumbent advantages notwithstanding, the ruling KMT party lost its grip on power in a bitterly contested presidential election. The DDP candidate Chen Shui-bian won the presidency by a slim margin and without winning an absolute majority. This dramatic outcome was widely hailed as a landmark indicating the completion of Taiwan's democratic transition,[2] and forever changed the political ecology of Taiwan.

Confronted by a fast growing economy and vibrant civil society in the 1980s, Taiwan was driven to the crossroads in creating an open, yet stable government. Democratization was the choice, and in 1986 the government ended martial law and opened itself to party competition. The move was understandably cautious on the part of the ruling regime and some segments of the populace. Nevertheless, just five years after the ending of martial law, Taiwan launched a full-fledged democratization of the central government. By early 2000, the democratic transition was complete.

Intellectual Relevance

What are the potential payoffs of studying the Taiwan case apart from the intrinsic relevance of Taiwan as a major Chinese society outside the Mainland? We consider Taiwan an invaluable case for studying the evolutionary dynamic of political trust during democratic transition.

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[2] Historically, an emerging democracy must complete at least two peaceful transfers of power through free elections before the democracy becomes stable and viable (Huntington 1991, p. 17). Here we speak of democratic transition without assuming long-term success.

Taiwan is a young democracy. For better or worse, this infant democracy was ushered into adulthood without the luxury of having a childhood as Taiwan peacefully completed a democratic transition within 10 years—a remarkably short period of time by all historical standards. The brevity of this transition offers social scientists a remarkable opportunity, which can be compared to the opportunity that fruit flies offer biologists. Fruit flies have very short life cycles, hence facilitating the observations of biological changes over the course of the life-cycle and across many generations of evolution. Although a decade is brief in absolute terms, the democratic transition and the macro-context have in face occurred extremely rapidly. Taiwan's accelerated rate of political change and contextual conditions will prove to be a helpful source of statistical information for separating short-term fluctuations from structural trends.

In addition, Taiwan's democratic transition began after the vision, expertise, and funding for conducting repeated social surveys were well established in academia. In effect, the infrastructure for data collection was already in place before the transition was in motion. Thus Taiwan's democratic transition is uniquely positioned to provide data and insights into the evolution of political trust over the entire period of its democratic transition. Given that Taiwan's democratic processes began in the 1990s, one does not have to reach far back into history to verify facts about the changing context. Therefore over the course of this study, we will analyze data spanning the period 1990–2003, a window of observation covering the evolution of a very young democracy.

How is the Western literature related to the Taiwan case? We have pointed out that the Western literature on political trust has produced many grand theories and single-factor hypotheses for the long-term and widespread decline in the political trust of the public in the Trilateral countries. However, the literature has yet to produce unambiguous evidence for a general explanation. Thus the Taiwan case cannot be motivated as a test of an established hypothesis, nor is it possible for a single case to resolve the empirical stalemate in the literature. Nonetheless, this literature is relevant to the present case in two ways. First, it presents a variety of major findings that are at odds with many popular hypotheses for the West, and hence providing the much needed cautionary tales for anyone who tries to apply one of the popular hypotheses to explain the Taiwanese

findings. Second, Taiwan has witnessed an overall rise and decline of political trust that is qualitatively similar to the postwar trends of political trust among the Trilateral democracies, rendering Taiwan a potentially relevant comparative case for the Trilateral phenomenon.

In the absence of a strong guiding hypothesis from the Western literature, our approach will be descriptive and inductive, instead of the conventional norm of starting with well-posed hypotheses and designing the empirical analysis around the testing of hypotheses. Our analytic focus will be the measurement and modeling of the temporal trends of political trust in Taiwan. We will discuss potential interpretations of the findings in the concluding section but have to leave the task of systematic theory testing to future research.

Data and Method

Data

While data on trust are relatively plentiful in Taiwan, in-depth analyses often require data that are available only in few surveys and limited points in time. To chart the temporal trends of political trust across the entire period of the democratic transition, we have to give up the potential for a variety of in-depth analyses. Nonetheless, the findings on temporal trends are fundamental, as these trends are important baseline facts with which any credible theory of political trust in Taiwan must reconcile.

Data used for analysis in this paper are extracted from 33 surveys conducted by four different institutions during the period between 1990 and 2003: (1) Taiwan Social Image Surveys (TSIS), 1990–2003, (2) United News Surveys (UNS), 1990–1996, (3) Taiwan Social Ethics Foundation Surveys (TSEF), 2001–2002, and (4) Taiwan Social Change Surveys (TSCS), 1990–2001. These surveys employed two methods of data collection. Taiwan Social Change Surveys used face-to-face interviews, whereas all the other surveys used telephone interviews. Given the close correspondence between the population of households with telephones and those without, the two target populations are practically the same. The main qualification is that telephone interviews tend to under-represent individuals without a regular phone, face-to-face interviews based on household registration tend to under-represent individuals who, for work or other reasons, do

not live in the household with which they are registered as residents. Appendix A reports the sources and years of data available for our analysis.[3]

To maintain interpretive consistency, we impose two criteria to determine whether a questionnaire item on trust is eligible for our data analysis: (1) The question directly asks respondents about the level they *trust* a target. (For instance, "To what extent do you trust the Executive Yuan?") (2) The answers are coded on a four-point Likert scale. (Thus, the categories of trust ratings are collapsed from a six-point scale into a four-point scale in the 1995 and 2000 TSCS.) The only exception is to the first criterion and involves the indicator for generalized trust, i.e., trust placed in a generic other in society. In the 2001 and 2002 TSEF, and the 2003 TSIS, the question is standard: "How do you trust others in general (most people in society)?" The answers range from "strongly trust" to "strongly distrust". This question fits the first criterion very well. However, the question we include from TSCS is of a different form: "Do you agree that 'human beings are not trustworthy'?" or "Do you agree that 'nobody is trustworthy'?" The answers range from "strongly agree" to "strongly disagree". We treat the two items as equivalent after consistently coding higher trust with a higher score.

Appendix B presents the detailed list of 49 targets for trust ratings. They are classified into six categories: (1) non-elected government institutions, such as the Executive Yuan, (2) elected government institutions, such as the Legislative Yuan, (3) the military, (4) non-government institutions, (5) professional roles, including professors and judges, and (6) generalized others in society. While categories 1–4 are explicitly institutional targets, survey respondents may think either in terms of the organization or the people who run the organization. Category 5 may be interpreted as institutionalized roles or as natural persons in specific occupations. Category 6 is explicitly about natural persons.

We pooled data for a total of 49 distinct targets of trust ratings available in any of the 33 surveys. Since the data are from different surveys conducted by different institutions at different points in time,

[3] In terms of population coverage, we only include nationally representative surveys. In terms of response rate, a typical face-to-face survey here has a refusal rate of about 10%, whereas a typical CATI survey has a refusal rate of 15%.

some almost equivalent institutional targets are called by slightly different names. For instance, medical centers, large hospitals, public hospitals, and health care organizations obviously overlap but do not necessarily inspire equivalent levels of trust.

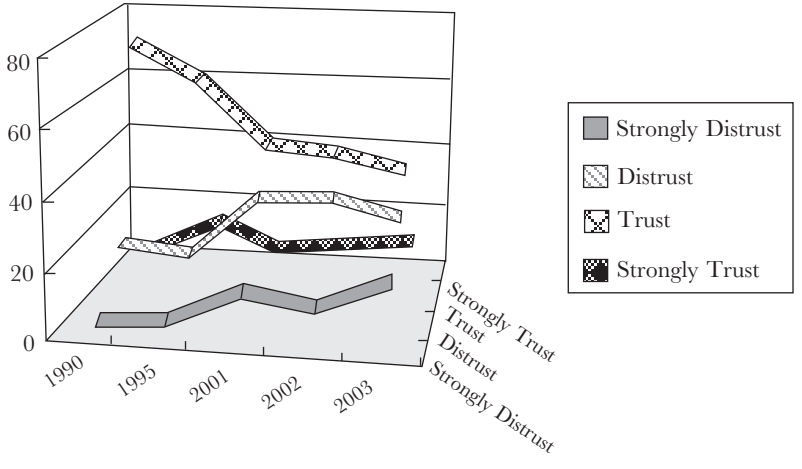
Since the trust data are ordinal and involve so many items, descriptive statistics will be too overwhelming to present. It is therefore more instructive to take a preliminary look at the ratings for two specific government institutions at selected time points. Figure 1 graphically summarizes the percentage distributions. Figure 1A presents the percentage distribution of trust for the Executive Yuan in 1990, 1995, 2001–2003. According to these figures, political trust has been on the decline from 1990 to 2003, in fact, cross-tabulation shows a sharp increase of distrust since 2001. Only 22% of the respondents indicated distrust in the Executive Yuan in 1990, and the proportion remained at 22% in 1995. But the percentage of distrust rose to 49% in 2001, 48% in 2002, and 49% in 2003. Figure 1B shows a similar decline of trust in the Legislative Yuan during the same period. In fact, distrust for the Legislative Yuan is much higher than that for the Executive Yuan. In 1990, 55% of the respondents expressed distrust of the Legislative Yuan. The percentage dipped to 48% in 1995 but rose to 67% in 2001, 78.5% in 2002, and 75% in 2003. For both institutions, then, a decline in trust is apparent.

Analytic Strategy

The methodology used in this study consists of three components. The first is measurement assumptions, the second is the transformation of typical data format of variables extracted from a survey into a format suitable for a model-based analysis, and the third is a statistical framework capable of handling responses drawn from repeated cross-sections and multiple responses (trust ratings for multiple targets) from the same respondent. The methodology we use has been extensively described and illustrated in a companion paper (Chang and Tam forthcoming). Here we will only highlight the measurement assumptions necessary for the interpretation of findings and the major analytic advantages of the methodology.

Measurement assumptions.—To produce a model-based quantitative portrait of the changing public trust in government during the democratic transition of Taiwan, we need a model-based estimation of

A. The Executive Yuan



B. The Legislative Yuan

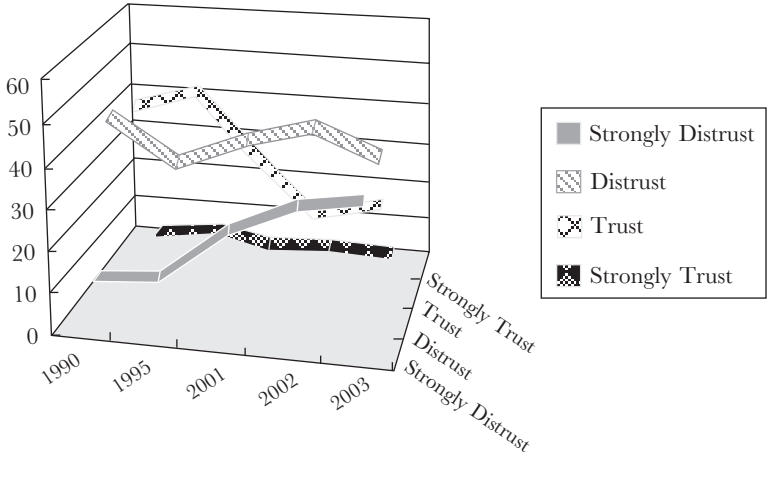


Figure 1. *Percentage Distributions of Trust in the Executive Yuan and the Legislative Yuan for Selected Years*

political trust that can efficiently pool (1) information from diverse sources and (2) trust ratings on many institutional targets. However, we must make certain measurement assumptions. Surprisingly, only two conventional assumptions implicit in the descriptive item-by-item analysis of trust data are necessary for our purposes. With the notable exception of Paxton (1999) who utilizes a structural equation modeling (SEM) framework, prior studies have assumed that (1) the same ordinal rating on a trust item is statistically comparable over time and across surveys; (2) the same ordinal rating on two different items are statistically comparable. These two assumptions are precisely what we need for pooling data across different trust items, aggregating categories of trust (e.g. non-elected government institutions versus elected government institutions), scaling the ordinal ratings simultaneously for all items, and comparing trends of different categories of trust. The most important payoff from successfully pooling the data and simultaneously scaling the ordinal ratings of diverse items is a coherent framework to statistically model the temporal patterns of levels of trust and compare the patterns for different types of trust.

The workhorse of our statistical analysis is a random-effects ordered logistic regression model. This model generalizes the conventional ordered logistic regression model by taking into account the potential statistical complications that may arise from the clustering of multiple responses due to the same respondent.[4] This is a simple but flexible model-based framework for studying trends. It permits us to go well beyond nearly all previous studies of political trust and offers eight major analytic advantages of power, interpretation, and rigor.

Powerful Use of Available Data.—(1) The model-based estimation of political trust *efficiently combines information* across diverse surveys. (2 Our analysis does not only pool data across surveys, but also follows a disciplined approach to pooling data across a wide-range of *institutional and non-institutional targets*. (3) The method has *minimal requisite requirements for data completeness*, as the model-based estimation of

[4] In technical terms, the ordered logistic model possesses two special features: (1) it allows for respondent-specific random-effects and (2) it produces standard errors that are robust against a variety of correlation structure among the error components of the responses from the same respondent. To estimate this class of model, the easiest way is to use the ologit command of STATA. Alternatively, specialized software packages, such as LIMDEP, MPlus, and HLM, can also estimate the model and a variety of its extensions.

trends leverages smoothness to interpolate scores for those years without any data on some or all items.

Interpretive Ease.—(4) Even though the observed ratings of trust are ordered categories, the model-based analysis produces estimates of an unobserved, continuous variable of trust. Specifically, the ordered logistic regression model of political trust *optimally scales ordinal ratings* of trust by assuming that a continuous one-dimensional concept of trust underlies the ordinal ratings. Political trust can then be presented in terms of *a standardized metric of interval scale*, in stark contrast to most previous empirical studies that analyze trust ratings as categorical variables that make it difficult to precisely characterize temporal trends, quantify differences, or combine information across institutional targets.[5] (5) *Parsimonious models of trends*: To map out the temporal patterns of trust, we allow for nonlinear trends. Through nonparametric analysis of the temporal patterns, we determine that a quadratic functional form is flexible enough to capture and reveal the trends of different types of trust. Thus, our main analysis always includes a quadratic specification of the shape of a trend. (6) Due to the aforementioned advantages, the model-based framework leads to much more *compact graphical representations of trends* that are fundamentally different than conventional representations (mostly item-specific percentage distributions of trust ratings). The formats of results of this paper are very different than the formats of those reported in seminal empirical studies of political trust (e.g., Lipset and Schneider 1983; Nye, Zelikow, and King 1997). We no longer have to trade off between (a) manually aggregating institutional targets into a small number of broadly defined targets and (b) wrestling with a large number of graphs or tables, each devoted to a subset of institutional targets. Nor do we have to follow the conventional practice: subjectively reconcile information across tables, conduct visual synthesis of different graphs, and then verbally summarize the overall perception of trends in political trust.

Statistical Rigor.—(7) The perception of temporal trends used to be informal and quite subjective. Our framework enhances intersubjectivity by providing *statistical tests* of (a) the shape of a trend and

[5] Compared to the prevailing approaches to analyzing ordinal trust rating data, the model-based scaling procedure actually simplifies the analysis of ordinal data without losing statistical rigor.

(b) similarity in the temporal trends of trust in different targets. (8) The modeling framework estimates trends with and without control variables, hence greatly facilitating (a) *multivariate analysis* and (b) *the tests of competing hypotheses* (Tam 2001, pp. 268–272).

Two additional notes are worth emphasizing. First, one of the common analytic questions in the analysis of trend is to distinguish age, period, and cohort effects. In our modeling framework, it is straightforward to distinguish period effects from age/cohort effects, but we cannot distinguish age and birth cohort effects using repeated cross-sections without making overly strong identifying assumptions. But for the purposes of this paper, identifying period effects is paramount. With our modeling framework, the separation is easy to implement and will not complicate the presentation of results by proliferating tables or figures for cohort-specific trends. So long as we can distinguish age/birth cohort effects from period effect (what we call temporal trends or patterns in this paper), we can address the central substantive questions without any problem.

Second, the methodology is equally applicable to the analysis of attitudinal survey data. The method is not specific to the analysis of trust ratings. It is useful for scaling ordinal ratings of any attitudinal data and for synthesizing data of multiple attitudinal items pooled from multiple surveys over many years (Chang and Tam forthcoming).

Results

Although it took much preparatory data management and programming to complete the data analysis of a massive amount of information, the essential findings from our analysis are succinctly summarized in Table 1. Because the substantive results consist of many nonlinear trends estimated for different types of public trust, we also produce graphics that offer the most convenient and parsimonious representations of the temporal trends. For most practical purposes, the shape and relative distance are of the most substantive interest to researchers. In this case, the Y-axis represents the level of estimated trust in terms of a standardized metric of interval scale. For instance, a score of 0.5 stands for half a standard deviation of the unobserved level of trust postulated to underline the ordinal ratings of trust.

We will organize the results as answers to two kinds of questions. The first kind consists of three substantive questions of comparative

trends that are of interest to students of political trust. The second kind is a question of robustness: the extent to which the results may be sensitive to the pooling of data across surveys based on different data collection methods and targeting respondents of somewhat different characteristics.

Comparing Trends

What is the temporal pattern of public trust in the non-elected segment of the government?—To most citizens, the non-elected segment of the government in Taiwan is the largest and most relevant to their daily lives, as it is essentially the executive branch that implements government duties and has direct impacts on the well-being of all citizens. Figure 2 presents the results for non-elected government institutions reported in columns 2 (quadratic trend) and 4 (annual fit) of Table 1. By visual inspect, the level of public trust appears to be relatively stable for much of the 1990s before taking a noticeable downward turn by 2001, when there was a transfer of power from the five-decade long ruling party. However, a simple quadratic curve fits the data very well when compared to the annual fit that does not impose any functional form restriction on the trend. When restricting the analysis to the brief period from 1991–1996 (excluding 1990 and 1997–2003),[6] we continue to find a statistically significant decline, even though the quadratic term is insignificant. To the credit of our modeling framework, we can even precisely say that the average annual decline over this six-year period is .03 standard deviation of the unobserved metric of trust, and this rate of decline is the same as the rate of decline for trust in generalized others.

How consistent is the temporal pattern with the patterns of public trust for other parts of the government?—Figure 3 tells us that the pattern in Figure 2 is not unique to the non-elected institutions of the government and not driven by the unusually low level of trust in 1990. Distinguishing government institutions into non-elected, elected, and the military, the patterns are remarkably similar. All three have the shape of an inverted U, as Taiwan was rapidly undergoing democratic transition. Political trust seems to have risen mildly early in the democratic transition before taking a downward turn afterward. It

[6] To simplify presentation, we omit all results based on a subset of the observed period. The results are available from the authors upon request.

Table 1. *Ordered Logistic Models of Temporal Changes in Political and Other Types of Trust in Taiwan, 1990–2003*

	(1) Quadratic	(2) Quadratic	(3) Linear	(4) Annual Fit
Level in 1996 (relative to non-elected govt)				
Elected Govt	−0.225**	−0.204**	−0.069**	−0.130**
	(0.017)	(0.017)	(0.016)	(0.026)
Military	0.674**	0.661**	0.794**	0.734**
	(0.036)	(0.036)	(0.035)	(0.039)
Non-govt	−0.051**	−0.048**	0.086**	0.025
	(0.014)	(0.013)	(0.010)	(0.024)
Professional	−0.019	−0.023	0.111**	0.051*
	(0.016)	(0.016)	(0.013)	(0.025)
Generalized Others	−0.301**	−0.335**	−0.202**	−0.262**
	(0.019)	(0.019)	(0.015)	(0.027)
Trend				
Non-elected Govt	−0.033**	−0.028**	−0.033**	[*Yearly*
Linear	(0.002)	(0.002)	(0.002)	*Coefs*
Quadratic	−0.743**	−0.708**		*Omitted*]
	(0.058)	(0.057)		
Elected Govt	−0.036**	−0.030**	−0.030**	−0.030**
Linear	(0.002)	(0.002)	(0.002)	(0.002)
Quadratic	−1.047**	−1.090**	−1.092**	−1.093**
	(0.064)	(0.064)	(0.064)	(0.064)
Military	−0.111**	−0.110**	−0.110**	−0.109**
Linear	(0.035)	(0.035)	(0.035)	(0.035)
Quadratic	−1.693**	−1.694**	−1.694**	−1.693**
	(0.648)	(0.646)	(0.646)	(0.646)
Non-govt	−0.015**	−0.012**	−0.011**	−0.011**
Linear	(0.001)	(0.002)	(0.002)	(0.002)
Quadratic	−0.209**	−0.232**	−0.233**	−0.234**
	(0.040)	(0.040)	(0.040)	(0.040)
Professional	−0.040**	−0.037**	−0.037**	−0.037**
Linear	(0.002)	(0.002)	(0.002)	(0.002)
Quadratic	−0.079	−0.064	−0.064	−0.064
	(0.064)	(0.064)	(0.064)	(0.064)
Generalized Others	−0.034**	−0.032**	−0.032**	−0.032**
Linear	(0.002)	(0.002)	(0.002)	(0.002)
Quadratic	−0.125*	−0.062	−0.062	−0.062
	(0.049)	(0.049)	(0.049)	(0.049)
Controls				
Whether Included	No	Yes	Yes	Yes
Latent R-sq	0.062	0.069	0.068	0.071

Note: * significant at 5%; ** significant at 1%; standard errors in parentheses; valid N is 191,873 for all models; linear and quadratic coefficients correspond to interaction of a variable with year and year-squared, respectively; all quadratic coefficients have been multiplied by 100 to improve readability; control variables include age group, education, gender, and survey methodology.

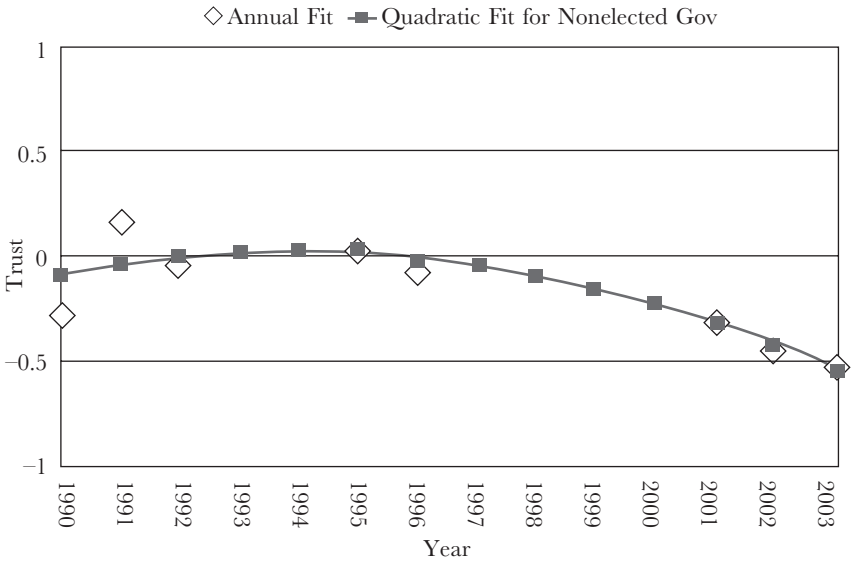


Figure 2. *Estimated Trend of Public Trust in Non-elected Government Institutions, Annual Fit (Year-specific Estimates) and Quadratic Functional Form (Source: Models 2 and 4 of Table 1, respectively)*

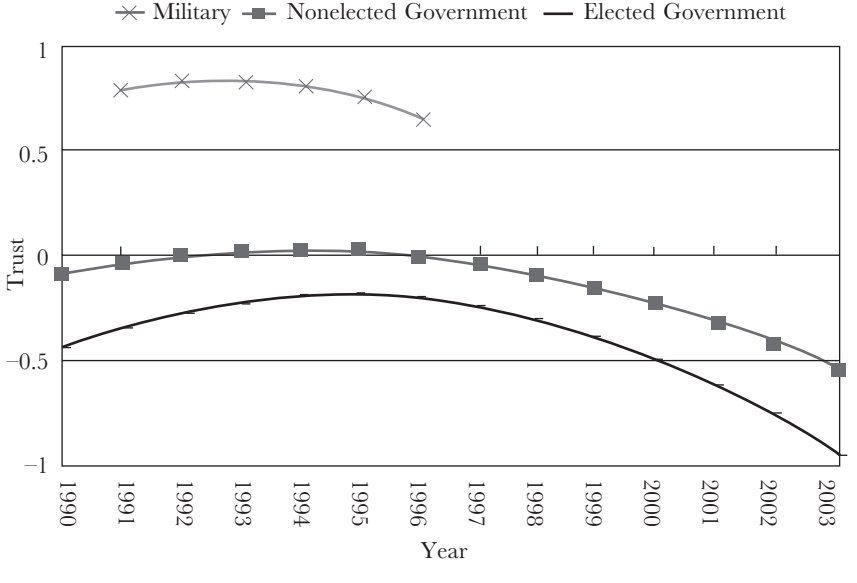


Figure 3. *Estimated Trends of Public Trust in the Military, Non-elected, and Elected Government Institutions, Allowing for the Quadratic Functional Form (Source: Model 2 of Table 1)*

is especially remarkable that the trends are so similar despite the fact that generally speaking, the public consistently places strong trust in the military more than in the other institutions of the government. The public rates the non-elected institutions higher than the elected institutions, despite having electoral control over the elected institutions. The qualitative pattern remains the same when analysis is restricted to the brief period from 1991–1996.

Is the decline specific to the government, or is it a general decline of trust throughout society?—Put differently, it is possible that there is nothing peculiar to decline of public trust in government, as the pattern may hold for all spheres of social life. Figures 4 and 5 provide relevant results for examining this possibility. Figure 4 compares the trend of non-elected government with the trend of non-government institutions. Although the trend of trust in non-government institutions slopes downward, the quadratic term (–.232) is only a small fraction of that of non-elected government institutions (–.708). The curvature is the smallest of all statistically significant nonlinear trends in Table 1. Figure 5 compares the trends of generalized trust and trust in professionals (mainly professors and judges) with the trend of trust in elected government institutions. The trends of trust in generalized others and professionals show an unmistakable decline, starting early in the 1990s. In sum, although the inverted-U shape pattern is likely related specifically to political trust in the elected, non-elected, and military segments of the Taiwan government, the declining trend is shared by most of the public trust we examined.

Sensitivity Analysis

Are the results dependent on the mix of respondents and survey methods?—As noted above, the data sources employ different survey methods and cover a period of rapid social change. First, consider survey methods. Some employ telephone interviews while others use face-to-face interviews. The two survey methods use different sampling techniques and by definition the interviews are conducted in different formats. Telephone interviews are somewhat less personal than are face-to-face interviews. It is legitimate to ask whether different survey methods produce systematic differences in trust ratings. Second, consider the composition of respondents. From 1990 to 2003, Taiwan has undergone a great deal of demographic changes. Among the changes are an acceleration of higher education expansion, a growing emigration

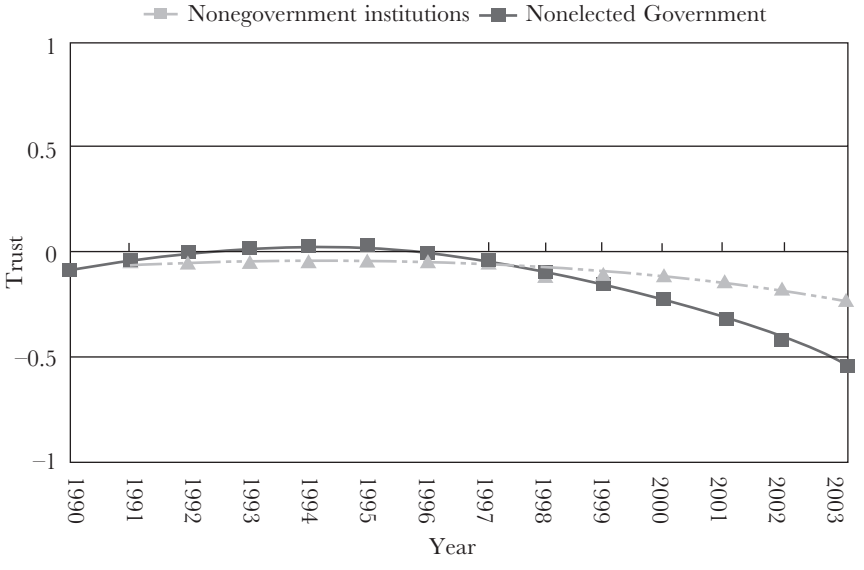


Figure 4. *Estimated Trends of Public Trust in Non-government and Non-elected Government Institutions, Allowing for the Quadratic Functional Form (Source: Model 2 of Table 1)*

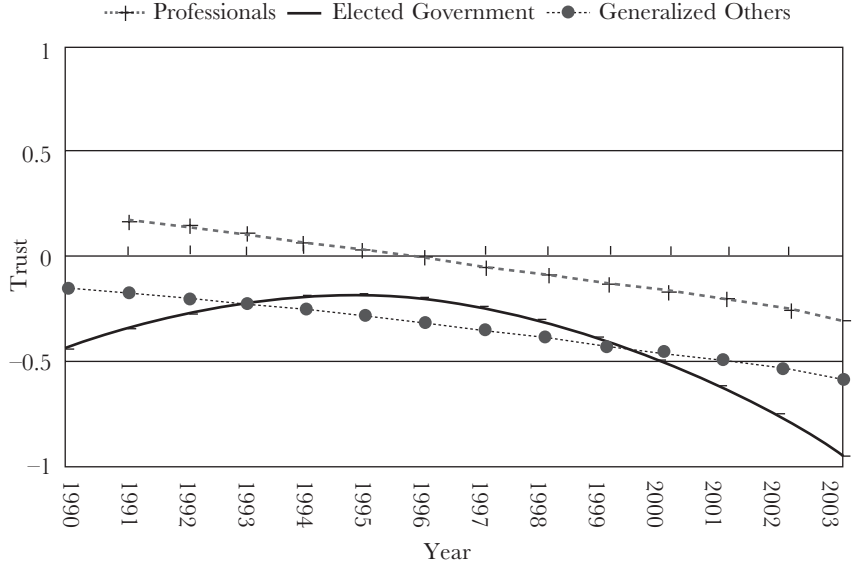


Figure 5. *Estimated Trends of Public Trust in Professionals, Generalized Others, and Elected Government Institutions, Allowing for the Quadratic Functional Form (Source: Model 2 of Table 1)*

to other countries after the 1995 missile crisis across the Taiwan Strait, an increasing relocation of hundreds of thousands of entrepreneurs, professionals, and even lesser skilled workers to the Mainland, and a massive influx of foreign brides from the Mainland and Southeast Asian countries. It is therefore prudent to check whether the results are seriously dependent on the changing mix of respondents over time and the different survey methods used by different sources.

To investigate both possibilities, we offer a simple test. Models 1 and 2 of Table 1 are estimated without and with control variables (respondent's gender, education, age, and method of interview). Comparing the numerical estimates is informative of the extent to which the estimated trends are likely dependent on the mix of respondents or survey methods. The numerical results of the two models turn out to be very similar. We may therefore conclude that the estimated trends are robust to respondent composition and survey methods. This finding is reassuring, even though sensitivity analysis should continue in the future.

Implications

The basic findings have successfully synthesized a great deal of diverse information hidden in the complex array of survey data. The results signify a major advance over prior studies with regard to the scale and scope of data coverage and the compact representation of the changing patterns of trust. However, the results invite many possible interpretations. While proposing interpretations is easy, narrowing down the interpretations is much more challenging because so many potentially crucial factors are confounded with each other. Given the paucity of reliable findings in the current literature on Taiwan's political trust, we believe a careful comparison of the trends of different types of public trust is the prudent and productive starting point. Two major findings stand out: (1) as figure 3 demonstrates, there is a remarkable convergence of temporal trends (but not the levels of trust) across very different segments of the government, and (2) as figures 4 and 5 show, even non-government institutions have witnessed a decline of public trust and the onset of the decline is well before 2000.[7]

[7] Apart from trust in institutions, trust in generalized others also declined over much of the 1990s.

Deserving special emphasis are the implications for a credible explanation for the decline of political trust in Taiwan. Our model-based aggregation of government institutions and mapping of temporal trend shows in figure 3 a striking convergence of the temporal trends of three very different segments of government (elected, non-elected, and military).[8] The three institutions receive distinctly different levels of trust rating, they are organized under very different principles, and they have undergone very different challenges, events, and transformations at different times within the observation period (data on the military are available for 1991, 1993, 1995, and 1996). In light of these differences, the convergence is truly remarkable. The convergence (especially between the trends of elected and non-elected government institutions) cannot be explained by any idiosyncratic explanation of the trends for individual segments, such as those based on *institutional-specific*, *segment-specific*, *or episodic* factors, events, or transformations. If the common trends do not share a common logic, their convergence is purely coincidental. While convergence by chance is always a possibility, it does not seem to be a probable one. The most promising explanation, we believe, is one of those explanatory mechanisms that transcend the boundaries of government institutions, segments, and specific time periods (especially not tied to events and changes since 2000). An explanatory mechanism is all the more credible if it can also explain the decline of public trust in non-government institutions and in professionals.

This is a tall order. We are not aware of any single hypothesis that can interpret all the declining trends without invoking chance as an explanation for the conspicuous convergence. For instance, any hypothesis that puts an emphasis on the change of regime in 2000 does not work well as a credible explanation. As reported earlier, the decline in political trust is evident even before 2000 (based on analysis restricted to the 1990s) and the legislature has always been under the control of the KMT throughout the observation period

[8] Greater disaggregation may be warranted in future extensions of the analysis here, provided that for any specific analysis the analyst makes a well-justified tradeoff between the details of disaggregation and the availability of comparable data over time. More direct tests of competing hypotheses should also be conducted when we have data containing the necessary contextual information and covering a sufficiently long period of the democratic transition.

of this study (1990–2003). In fact, the decline of trust in the military is evident by 1996. For the same reasons, the findings cannot be easily reconciled with macroeconomic stories such as the 1997 Asian financial crisis, economic decline in the aftermath of the devastating 921 earthquake in 1999, or the loss of market confidence when KMT lost its hold on the presidency and the executive branch since 2000.

Conclusion

Sociologists have long held that trust is pervasive and essential for social life. Politics and governance are no exception. Trust in government has also caught the attention of political scientists for a long time. Too much trust is dangerous for democracy, which demands a healthy degree of skepticism. Too little trust is costly for democratic governance, which cannot be efficient with every actor suspicious of each other and unwilling to cooperate. Nevertheless, political trust is often used as an indicator of the health of a democracy.

In this study, we contribute an empirical analysis of the evolution of political trust during the democratic transition of Taiwan. We adopt a methodological strategy that permits us to go well beyond nearly all previous studies of political trust. Our analysis pools survey data, analyzes ordinal trust data across a wide range of institutional and non-institutional targets, and statistically estimate the temporal trends of political trust. The central analytic task is to obtain a model-based scaling of trust and parametrically model the temporal trends of different types of trust in Taiwan over the period from 1990–2003. Our objective is to offer a set of baseline findings that should inform future theory construction, research design, data collection, and in-depth analysis of specialized issues of political trust.

While Taiwanese data are relatively plentiful, we are limited by our focus on charting the temporal trend across the entire period of the democratic transition. This focus prevents us from conducting in-depth analyses that are much more demanding in the completeness of data over time. After all, the objective of this study is not about hypothesis testing. Nevertheless, our model-based scaling of trust ratings, aggregation of institutions, and specification of temporal trends have produced two major new findings: (1) a remarkable convergence of temporal trends but not the levels of trust across very different segments of the government, and (2) a broad decline of

public trust that goes beyond government institutions and started before 2000.

While future research is needed to determine the explanation for the trends of political trust in Taiwan, the findings have nontrivial implications for where the true explanation(s) is likely to be found. The implications are similar to what Pharr et al. (2000) draw from the ubiquitous and long-term decline of political trust in the Trilateral countries during the last half century. Pharr et al. (2000) notes the scope (institutional and physical locations) of the decline, relative proximity of the onset of the decline across countries, and the long-term (i.e. continuing, sustained) decline. They think the pattern strongly suggests that the decline cannot be due to any episodic event (riots of the 1960s, the 1973 oil crisis), so-called factors involving proper nouns (such as Nixon, Thatcher), cyclical factors (notably macroeconomic business cycles), or country-specific experiences. The continuing downward trend is particularly challenging. It signifies a causal process that started a long time ago and actually strengthened over time. A convincing explanation for the Trilateral phenomenon must be able to accommodate this stylized fact. In a similar vein, we suggest that the explanation(s) for the Taiwan case is unlikely to be based on *institutional-specific, segment-specific, or episodic* events, factors, or transformations. Since 1990, a relatively general explanatory mechanism is likely the engine of political trust in Taiwan.

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Appendix A. *Data Sources*

	TSIS	UNS	TSEFS	TSCS	Yearly Total
1990	CATI/1,174	CATI/ 682		Face/2,476	5,482
		CATI/ 1,150			
1991		CATI/ 3,495		Face/1,119	5,615
		CATI/ 1,663		Face/2325	
1992	CATI/1,541	CATI/ 978			
		CATI/ 572		Face/1,315	4,406
1993		CATI/ 1,513		Face/1,661	
			Face/1,666	4,840	
1995		CATI/ 1,920		Face/2,041	3,961
1996		CATI/ 1,656			
		CATI/ 869			
		CATI/ 702			
		CATI/ 667		Face/1,837	5,731
1998				Face/1,874	
				Face/1,767	3,461
2000				Face/1,873	1,873
2001	CATI/1,230		CATI/1,072	Face/2,051	4,353
2002	CATI/1,161		CATI/1,068		2,229
	CATI/1,718				
2003	SARS1/907				
	*SARS2/1,151				3,776
Total	8,882	12,880	2,140	22,005	45,907

Note: Taiwan Social Image Surveys (TSIS), United News Surveys (UNS), and Taiwan Social Ethics Foundation Surveys (TSEFS) are periodic telephone interviews of representative samples of the population in Taiwan; Taiwan Social Change Surveys (TSCS) is periodic face-to-face interviews of representative samples based on the national household registration records. While telephone interviews tend to under-represent individuals without a regular phone, face-to-face interview based on household registration under-represent individuals who, for work or other reasons, do not live in the household with which they are registered as residents.

Appendix B. *Inventory of Institutions Covered*

Object of Trust	Category	1990	1991	1992	1993	1995	1996	1998	2000	2001	2002	2003
Office of the President	Elected Govt			x						x	x	x
Legislative Yuan	Elected Govt	x	x	x	x	x	x			x	x	x
National Assembly	Elected Govt	x		x	x	x	x					
local councils	Elected Govt									x		
Executive Yuan	Non-elected Govt	x	x	x	x	x	x			x	x	x
Straits Exchange Foundation	Non-elected Govt		x		x	x	x					
Judicial Yuan	Non-elected Govt	x		x						x		
Examination Yuan	Non-elected Govt			x						x		
Control Yuan	Non-elected Govt	x	x	x	x	x	x			x		
courts	Non-elected Govt			x								
Bureau of Investigation	Non-elected Govt		x		x	x	x					
National Police	Non-elected Govt		x									
local governments	Non-elected Govt									x		
tax agencies	Non-elected Govt				x	x	x					
Military	Military		x		x	x	x					
non-profit organizations	Non-govt									x	x	x
religious groups	Non-govt		x		x	x	x				x	
environmental advocacy groups	Non-govt			x						x	x	x
farmer associations	Non-govt		x		x	x	x					
public medical centers	Non-govt				x	x	x					
public hospitals	Non-govt											x
large hospitals	Non-govt											x
private hospitals	Non-govt									x		
private clinics	Non-govt											x

(*cont.*)

Object of Trust	Category	1990	1991	1992	1993	1995	1996	1998	2000	2001	2002	2003
health care organizations	Non-govt									x		x
newspapers	Non-govt		x		x	x	x			x		
TV stations	Non-govt		x		x	x	x	x		x	x	x
radio stations	Non-govt		x	x	x	x	x	x		x	x	x
magazines	Non-govt									x		
Post Office	Non-govt											
banks	Non-govt				x	x	x			x		
large firms	Non-govt		x		x	x	x			x		
small & medium firms	Non-govt		x		x	x	x				x	
Joint Entrance Examination System	Non-govt		x		x	x	x					
Multi-channel School Admission System	Non-govt									x		
advertisements	Non-govt									x		
product labels	Non-govt							x			x	
stock market	Non-govt		x		x	x	x					
legal officers	Professional						x					
Grand Justice	Professional		x		x	x	x			x	x	
judges	Professional		x		x	x	x					
lawyers	Professional									x		
experts	Professional											x
professors	Professional		x		x	x	x			x	x	
teachers	Professional									x	x	
journalists	Professional										x	
physicians	Professional									x	x	
company CEO	Professional									x	x	
generalized others	Generalized Others	x	x			x		x	x	x	x	x