Asian Barometer Survey Wave 6

2021-2023

TECHNICAL REPORT

(TAIWAN)

By

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1. BASIC INFORMATION

1.1 LOCATION

The Asian Barometer Survey Wave VI Taiwan survey covered the area of Taiwan, including six municipalities, 3 cities and 14 counties.

1.2 POPULATION

The population of Taiwan in June 2023 was 23,373,283.[1] The capital city is Taipei City. Additionally, there are five major municipalities, namely New Taipei City, Kaohsiung City, Taichung City, Tainan City, and Taoyuan City.

1.3 GOVERNMENT

Taiwan is a republic with the president as the head of the state. The institutional arrangement is categorized as semi-presidential system since the premier (the head of the Executive Yuan) is in charge of the executive branch. The premier is not an elected

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[1] National Statistics Office, Accessed on June 30, 2023
  https://www.moi.gov.tw/cp.aspx?n=15367

official but appointed by the president and does not need the approval of the Legislative Yuan. Besides the major three branches of the government (the Executive, Legislative, and Judicial), two other branches were created under the Constitution, the Control Yuan and Examination Yuan. There are two major parties in Taiwan, the Nationalist Party (or Kuomintang, KMT) and the Democratic Progressive Party (DPP). The DPP controlled both the presidency and the legislature since the 2016 presidential election. The next presidential and legislative elections are scheduled on January 13, 2024.

The president is elected through the first-past-the-post system by plurality rule. The mixed-member rule is applied to electing members in the legislature. Among the 113 seats, 73 seats come from single-member districts, 6 from aboriginal reserved seats, and 34 seats elected under proportional party list with 5% threshold. As of September 2023, the DPP held 62 seats while the KMT had 37 seats[2]. The rest were shared by other small parties. The Taiwan People's Party (TPP), a party established in August 2019, leads by former Taipei city mayor -Ko Wen-je, won 5 seats which becoming the third largest party in the legislature.

1.4 ECONOMIC PERFORMANCE

Economic growth was evaluated by gross domestic product (GDP). In 2022, the GDP growth was 2.35 %. GDP per capita was USD 32,756. The GDP growth rate was down from 3.39% in 2020 and 6.53 % in 2021.[3]

1.5 IMPORTANT POLITICAL AND SOCIAL EVENTS

President Tsai Ing-wen was re-elected in the presidential elections in May 2020. Meanwhile, during the outbreak of the COVID-19 pandemic globally, TW had a relatively small impact in 2020 till late April 2021, leading to a sharp surge in cases. Tsai administration, in response, closed the national borders for months and strictly executed a mask-wearing policy. However, the slow progress of vaccination and the lack of sufficient vaccines and medical resources caused public doubts and criticism.

Taiwan voted four referendums in December 2021, including the activation of Fourth Taiwan Nuclear power plant, ban on ractopamine-containing pork imports, relocate the construction site of LNG (Liquid Natural Gas) Terminal in Taoyuan's Datan Algae Reef and binding referendums to general elections. The votes did not reach the threshold and disagreement votes exceeded. All four proposals were rejected.

From "Status quo" to "four insistence," Tsai proclaimed the statement of Taiwanese people's willingness. In August 2022, The US House of Representatives speaker, Nancy

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[2] Legislative Yuan, Republic of China (Taiwan)
 https://www.ly.gov.tw/Pages/List.aspx?nodeid=109
[3] National Statistics Office, Accessed on
https://www.stat.gov.tw/Point.aspx?sid=t.1&n=3580&sms=11480

Pelosi, visited Taiwan. China responded to Pelosi's trip by launching military exercises, in which China's Military of Defense announced drills in the seas and airspace surrounding Taiwan. At the end of 2022, the KMT won 13 general election seats while the DPP only retained 5 counties and cities, the worst record in the DPP party's 36 years of existence. President Tsai resigned from her role as party chairman afterward.

2. TIMETABLE

Activity	Duration
Preparation	
Pre-test	2022/04/12~05/12
Finalizing the Questionnaire	2022/05/15~06/15
Institutional Review Boards	2022/07/01~08/31
Training for Supervisors and Interviewers	2022/09/23~09/25
Fieldwork	
Fieldwork	2022/09/26~12/11
Re-test	2023/1/11~1/19

3. RESPONDENTS

3.1 CRITERIA OF SELECTING RESPONDENTS

Data was gathered through face-to-face interviews of voting-age adults (20 years old and above), who had registered in the household system in department of household registration, Ministry of the Interior. The baseline information and addresses were drawn from the household information compiled by the Ministry of Interior and excluded residents in military organizations, hospitals, medical care centers, schools, vocational training centers, dormitories, detention centers, and prisons.

3.2 RESEARCH ETHNICAL REVIEW

The Taiwan team had obtained the permission to conduct human subject research to meet the international standard.

4. SAMPLING PROCESS AND METHODOLOGY
4.1 SAMPLING SIZES AND ERROR MARGINS

An indicator of data quality is the standard error of the estimate, on which the margin for sampling error is based. As survey statistics are mostly proportions, the key measure of data precision is the standard error of a proportion taken from a sample. It is computed as follows:

$$\pm Z * \sqrt{\frac{p(1-p)}{n}}$$

Where Z, at 95% confidence level is 1.96; p is the sample proportion estimate and n is the sample size. The overall sample size of 1,532 voting-age adults gives a maximum error margin of ± 2.50% at the 95% confidence level, assuming a simple random sampling design.

4.2 SAMPLING SCHEME

The survey targets the general population of Taiwan's main island and Penghu County who are nationals of Taiwan and aged 20 and above (born before December 31, 2001). The sampling frame utilizes the household addresses provided by the Ministry of the Interior. Employing the within Household Sampling method, one eligible resident fitting the aforementioned age criterion is selected for an interview from each chosen address. During the actual survey visits, if the selected address turns out to be a military establishment, hospital, nursing home, school, vocational training center, dormitory, prison, or similar institution, then sampling and surveying are not conducted.

We employ stratified sampling and an inflated sample design during the sampling process. The former is to enhance the precision of data extrapolation, while the latter is designed to mitigate potential disruptions during the survey, such as refusals or lack of contact, preventing us from achieving the anticipated completion targets. The stratified sampling adopted in this project is based on the population structure and economic variables of different cultural zones. Taiwan's 358 townships and districts are categorized into seven strata. Recognizing the importance of ensuring comprehensive regional representation in the selected samples covering all areas of Taiwan, and in streamlining the sampling operations to avoid continuous checks for regional representation after each sampling, these seven strata are further subdivided into nineteen smaller strata based on the distribution across six major geographic regions.

We adopted the Four-Stage Probability Proportional to Size (PPS) Sampling method, combined with within Household Sampling. In this approach, the first three stages employ an equal-interval sampling method within each stratum, where the sampling rate is proportional to the unit size (PPS). This is followed by a design that expands the sample, combined with the within household sampling method. Specifically, the PSU is 'townships and districts (鄉鎮市區)'; the SSU is 'villages and neighborhoods(村里)'; the third stage selects specific 'addresses'. For the fourth stage, in order to ensure that the age structure of the surveyed samples closely aligns with the overall population structure of Taiwan and to counteract the potential issue of

lower completion rates due to lower accessibility or willingness of younger respondents, we utilized a modified version of the household sampling table by Hung Yong-Tai (2001)[4] which is designed to increase the selection probability for younger samples. Interviewers, upon entering a household, select one individual from each household to be interviewed.

The target completion count for this survey is 1,500 cases. During the sampling design and allocation of the sample, we referred to the population statistics provided by the Department of Household Registration, Ministry of the Interior, as of December of the 2021 to calculate the population proportion for each stratum. Based on this, we designed the number of townships and districts, as well as villages and neighborhoods, needed to be selected for each stratum. The total number of completed cases is projected to be 1,506.

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[4] 洪永泰，2001，<戶中選樣之研究>。頁 150-154，台北：五南。

Strata	Population aged 20 and above	Percentage of Total	Number of Townships Selected	Number of Neighborhoods/ Villages Selected	Total Number of Samples
Taipei City/New Taipei City/ Keelung Area – 1	1,124,637	5.8%	5	2	90
Taipei City/New Taipei City/ Keelung Area – 2	3,042,252	15.8%	12	2	240
Taipei City/New Taipei City/ Keelung Area – 3	1,589,585	8.3%	6	2	120
Taipei City/New Taipei City/ Keelung Area - 4	383,550	2.0%	2	2	32
Taoyuan/ Hsinchu/ Miaoli Area – 1	1,143,620	5.9%	4	2	88
Taoyuan/ Hsinchu/ Miaoli Area – 2	1,445,218	7.5%	5	2	110
Taoyuan/ Hsinchu/ Miaoli Area – 3	494,000	2.6%	2	2	40
Taichung/ Changhua/ Nantou Area – 1	888,383	4.6%	3	2	72
Taichung/ Changhua/ Nantou Area – 2	1,225,715	6.4%	5	2	100
Taichung/ Changhua/ Nantou Area – 3	1,211,748	6.3%	5	2	90
Taichung/ Changhua/ Nantou Area – 4	406,464	2.1%	2	2	32
Yunlin/ Chiayi/ Tainan Area – 1	890,169	4.6%	3	2	72
Yunlin/ Chiayi/ Tainan	1,153,280	6.0%	4	2	88

Area – 2					
Yunlin/ Chiayi/ Tainan Area – 3	725,336	3.8%	3	2	60
Kaohsiung City/ Pingtung Area – 1	1,076,629	5.6%	4	2	80
Kaohsiung City/ Pingtung Area – 2	949,007	4.9%	3	2	72
Kaohsiung City/ Pingtung Area – 3	1,054,980	5.5%	4	2	80
Yilan/ Hualien/ Taitung & Outlying Islands* - 1	237,962	1.2%	2	2	20
Yilan/ Hualien/ Taitung & Outlying Islands* - 2	210,166	1.1%	2	2	20
Total	**19,252,701**	**100.00%**	**76**	**38**	**1,506**

* Including Penghu, Kinmen, and Mazu

4.3 NUMBER OF CALLS AND SUBSTITUTION/ALTERNATE SAMPLES

Unsuccessful interviews are an inevitable part of survey research regardless of approach used. In order to avoid the problem of the eventual sample size being too small because of unsuccessful interviews, we also selected alternate sets of samples. If the original sample set was unsuccessful, alternate samples sets were used. The process and methodology for selecting alternate samples was the same as for the original sample set.

4.4 SURVEY STATISTICS

No. of Potential Respondents	**Successful Case**	**Refusal Rate**
6,867	1,532	68.52%

In total, there were 6,867 respondents being contacted and, among them, 1,532 had completed the interviews. The refusal rate is high, at 69%. Most incidents of failed interviews came from outright refusal of the respondents or family members (12%), or the interviewers could not find the respondents for various reasons, including not living in the household, being away for a long time, or our interviewers could not access the buildings (52%).

5. RESEARCH METHODOLOGY

5.1 PREPARATION
5.1.1 QUESTIONNAIRE

The Chinese-version questionnaire was designed based on the module questionnaire developed by the Asian Barometer Survey. In order to deliver the definitive message in the questionnaire, several meetings were held among the team members to discuss the questions and indicators that would accurately evaluate and explore the citizens' attitudes toward democracy.

5.1.2 PRE-TESTING AND FINALIZING QUESTIONNAIRE

In order to narrow down the perception gap between the questionnaire designers and the respondents, a pre-test was needed so that problems, such as unclear wording, conceptually vague sentences, recording difficulties etc., could be corrected before the fieldwork began. The team also received feedback about the questionnaire from field supervisors and interviewers after they conducted the pre-test. The pre-test has helped determine the following things:

-- The length of interviews (about 40 min. to 1 hour)
-- Wording of questions
-- Adding new items or eliminating less significant questions
-- Question sequence
-- Translation
-- Coding system
-- Questionnaire instructions
-- Conception and idea of questions

5.1.3 TRAINING

For this project, the Center for Survey Research (CSR), Academia Sinica has invited interviewers in participate the project briefing session based on whether the interviewers have recently participated in survey projects. Interviewers who have never participated in the center's survey projects and those without household sampling interview experience are required to attend the project briefing sessions on September 23, September 24, and September 25. The content includes explanations and introductions of the work process, principles for using the sample list, guidelines for filling out interview records, supplemental questions and review explanations, introductions and exercises on the CAPI system operations, and group exercises led by instructors.

However, if interviewers have participated in the CSR's survey projects in the past two years and have experience in conducting household sampling interviews, they only need to attend the briefing sessions on September 24 and September 25. The content includes explanations and introductions of the work process, questionnaire guidelines and records, interview techniques and principles, explanations of the principles of personal data protection law, CAPI system operation training, and mock interview exercises.

Upon the conclusion of the briefing sessions, the interview work will commence immediately. In total, 68 interviewers are participating in this project.

5.2 FIELDWORK
5.2.1 WORKERS ON HAND
For the survey, 68 Interviewers and 26 Supportive Interviewers were deployed:

5.2.2 SUPERVISION
5.2.2.1 QUESTIONNAIRE RECORDING SETUP
To control the quality of the interviewer's survey and to confirm that the interviewer follows the survey principles, recordings are made during household sampling and questionnaire interviews. Interviewers must explain to the household that the interview will be recorded and can only proceed with the interview after obtaining the household's consent. During the survey period, 2 respondents did not participate in the interview due to their refusal to be recorded.

5.2.2.2 SPOT-CHEKING
In order to ensure and monitor the quality and status of survey data, we specifically targets new interviewers participating for the first time, interviewers who haven't conducted interviews in a long time, and interviewers without household sampling interview experience. The CSR enlists the help of senior interviewers to accompany and oversee these junior interviewers (referred to as "shadowing interviewers") during their assignments. This allows on-site guidance and verification of the work outcomes, enabling the interviewers to quickly grasp the principles and techniques of the interview process. Additionally, to provide emotional support to the interviewers, the research center will make follow-up calls to check on their interviewing status after the execution of the survey.

To understand the effectiveness of this shadowing, both the shadowing

interviewers and the new interviewers are asked to fill out a 'Shadowing Interviewer/New Interviewer Follow-up Questionnaire' in the second week following the survey execution. By analyzing the responses and gathering feedback from the questionnaires, the center aims to understand the learning progress of the new interviewers and evaluate the applicability of the shadowing interviewers.

5.3 FIELD EDITING

5.3.1 DATA PROCESSING

The CAPI system recorded all answers and some basic logical checks were already set up. Thus, the team members only needed to discuss the coding problem in open questions and decided the new codes.

5.3.2 DATA ENTERING AND CLEANING

Data was then verified and the consistency of the encoded data was checked before data tables were generated.

6. RELIABILITY ANALYSIS

As part of a full review of the survey, questions were subjected to a reliability analysis. Reliability was measured using Cronbach's alpha, α. It is a common rule of thumb that a Cronbach α value of .6 to .7 is an acceptable value. This Technical Report uses commonly accepted rule of thumb in interpreting Cronbach's α values:

$$\alpha \geq 0.9 \; Excellent$$
$$0.7 \leq \alpha < 0.9 \; Good$$
$$0.6 \leq \alpha < 0.7 \; Acceptable$$
$$0.5 \leq \alpha < 0.6 \; Below \; Standard$$
$$\alpha < 0.5 \; Poor$$

6.1 PSYCHOLOGICAL INVOLVEMENT

The total Cronbach's α value of the three items was .613. The consistency of each concept is, therefore, acceptable in terms of reliability analysis. No question should be deleted from this battery since doing so will not significantly enhance the Cronbach's α significantly. Overall, the reliability of this set of questions is *acceptable*.

Cronbach's α = .613	Corrected Item-total correlation	Cronbach's α if item deleted
Q47. How interested would you say you are in politics?	.537	.401
Q48. How often do you follow news about politics and government?	.481	.623
Q49. When you get together with your family members or friends, how often do you discuss political matters?	.468	.560

6.2 TRADITIONALISM

The total Cronbach's α value of the 12 items was .750. The consistency of each item was *good* in terms of reliability analysis. Q56 and Q59 had the lowest correlations, and, deleting them does not increase Cronbach's α value. There was no significant difference in the coefficient Cronbach's α when we removed individual items. There are therefore no items that need to be deleted from this perspective.

Cronbach's α = .750	Corrected Item-total correlation	Cronbach's α if item deleted
Q56. For the sake of the family, the individual should put his personal interests second.	.256	.749
Q57. In a group, we should sacrifice our individual interest for the sake of the group's collective interest.	.361	.736
Q58. For the sake of national interest, individual interest could be sacrificed.	.432	.727
Q59. When dealing with others, developing a long-term relationship is more important than securing one's immediate interest.	.142	.759
Q60. Even if parents' demands are unreasonable, children still should do what they ask.	.516	.717
Q61. When a mother-in-law and a daughter-in-law come into conflict, even if the mother-in-law is in the wrong, the husband should still persuade his wife to obey his mother.	.529	.715

	Corrected Item-total correlation	Cronbach's α if item deleted
Q62. Being a student, one should not question the authority of their teacher.	.570	.709
Q63. In a group, we should avoid open quarrel to preserve the harmony of the group.	.389	.733
Q64. Even if there is some disagreement with others, one should avoid the conflict.	.414	.730
Q65. A person should not insist on his own opinion if his co-workers disagree with him.	.369	.735
Q66. Wealth and poverty, success and failure are all determined by fate.	.334	.740
Q67. If one could have only one child, it is more preferable to have a boy than a girl.	.308	.741

6.3 REGIME PREFERENCE

6.3.1 OPERATION OF CURRENT GOVERNMENT INSTITUTIONS

The correlation of each item with the other three items in this set is acceptable, with a minimum figure of .584. The total Cronbach's α value for the four items was .857. The consistency of each item was good in terms of reliability analysis. Removing any one item does not increase Cronbach's α value. Therefore, it is not necessary to delete any items. Overall, the design of this set of questions is good. Each question passed the reliability test.

Cronbach's α = .857	Corrected Item-total correlation	Cronbach's α if item deleted
Q80. Over the long run, our system of government is capable of solving the problems our country faces.	.692	.821
Q81. Thinking in general, I am proud of our system of government.	.774	.786
Q82. A system like ours, even if it runs into problems, deserves the people's support.	.756	.794
Q83. I would rather live under our system of government than any other that I can think of.	.584	.864

6.4 PREFERENCE FOR DEMOCRACY

Each of the five questions showed positive correlation with the other four

questions. The total Cronbach's α value for the five items was .591, which is near *acceptable*. There was no significant difference in the coefficient Cronbach's α when we removed individual items. Overall, the ability of this set to reliably measure democratic legitimacy is fairly adequate.

Cronbach's α = .591	Corrected Item-total correlation	Cronbach's α if item deleted
Q124. Which of the following statements comes closest to your own opinion? (1) Democracy is always preferable to any other kind of government (2) Under some circumstances, an authoritarian government can be preferable to a democratic one (3) For people like me, it does not matter whether we have a democratic or a nondemocratic regime	.348	.543
Q125. Which of the following statements comes closer to your own view? (1) Democracy is capable of solving the problems of our society (2) Democracy cannot solve our society's problems	.286	.569
Q126. If you had to choose between democracy and economic development, which would you say is more important?	.449	.474
Q127. If you had to choose between reducing economic inequality and protecting political freedom, which would you say is more important?	.385	.521
Q128. Do you agree or disagree with the following statement: "Democracy may have its problems, but it is still the best form of government."	.325	.549

6.6 LEGITMACY OF DEMOCRACY/ DETACHMENT FROM AUTHORITARIANISM

The Cronbach's α value for the four items is .829, which is considered *good*. Each of the four items is positively correlated with the other three questions in this module. Deleting any of the items from this battery would not have a significant effect on the overall Cronbach's α value, i.e., none of the items would increase the reliability if they were deleted because all values are less than the overall reliability α.

Cronbach's α = .829	Corrected Item-total	Cronbach's α

	Correlation	If Item Deleted
Q129. We should get rid of parliament and elections and have a strong leader decide things	.643	.794
Q130. Only one political party should be allowed to stand for election and hold office	.711	.761
Q131. The army (military) should come in to govern the country	.656	.787
Q132. We should get rid of elections and parliaments and have experts make decisions on behalf of the people	.630	.797

6.7 CITIZEN EMPOWERMENT AND POLITICAL SUPPORT

The Cronbach's α value for the five items is .806, which is considered *good*. Each of the five items is positively correlated with each of the other questions in this module. Q141 (.518) has the lowest corrected item-total correlation. Deleting any of the items from this battery would not have significant effect on the overall Cronbach's α value, i.e., none of the items would increase the reliability if they were deleted because all values are less than the overall reliability Cronbach's α.

Cronbach's α = .806	Corrected Item-total Correlation	Cronbach's α If Item Deleted
Q133. I think I have the ability to participate in politics	.518	.795
Q134. Sometimes politics and government seems so complicated that a person like me can't really understand what is going on	.661	.748
Q135. People like me don't have any influence over what the government does	.599	.766
Q136. You can generally trust the people who run our government to do what is right	.588	.770
Q137. A citizen should always remain loyal only to his country, no matter how imperfect it is or what wrong it has done	.607	.763

6.8 AUTHORITARIAN/DEMOCRATIC VALUES

Each of the ten questions showed positive correlation with the other nine questions. The total Cronbach's α value for the eleven items was 0.779, which is considered *good*. The consistency of each item was good in terms of reliability analysis. Thus, no items need to be deleted.

Cronbach's α = .90	Corrected Item-total correlation	Cronbach's α if item deleted
Q146. Women should not be involved in politics as much as men.	.467	.759
Q147. The government should consult religious authorities when interpreting the laws.	.400	.767
Q148. People with little or no education should have as much say in politics as highly-educated people.	.238	.784
Q149. Government leaders are like the head of a family; we should all follow their decisions.	.492	.755
Q150. The government should decide whether certain ideas should be allowed to be discussed in society.	.579	.743
Q151. Harmony of the community will be disrupted if people organize lots of groups.	.458	.759
Q152. When judges decide important cases, they should accept the view of the executive branch.	.404	.767
Q153. If the government is constantly checked [i.e. monitored and supervised] by the legislature, it cannot possibly accomplish great things.	.385	.768
Q154. If we have political leaders who are morally upright, we can let them decide everything.	.544	.748
Q155. If people have too many different ways of thinking, society will be chaotic.	.504	.753

6.9 GLOBALIZATION

The measurement in globalization battery is the same as that of ideal system of democratic government. This group has five items; (Q156+Q156a) and (Q157+Q157a) were grouped together and given a new code. The Cronbach's α value for the five items is .244, which is considered *below standard*. Each of the three items is positively correlated with each of the other questions in this module, though the correlations are low. Deleting (Q156+Q156a) from this battery would have significant effect on the overall Cronbach's α value. The drop of the item would increase the the overall reliability Cronbach's α, therefore the deleting should be considered.

Cronbach's α = .244	Corrected Item-total correlation	Cronbach's α if item deleted

	Corrected Item-total Correlation	Cronbach's α If Item Deleted
Q156+Q156a. *Statement 1. Our country should do more to defend our way of life. Statement 2. Our country should do more to learn from other countries even if we might lose our country's distinct way of life (or culture).*	.049	.359
Q157+Q157a. *Statement 1. Our country should limit the imports of foreign goods to protect our farmers and workers. Statement 2. Our country should do more trade with other countries even if the rise of imports might harm our workers and farmers.*	.223	-.039
Q158. Do you think the government should increase or decrease the inflow of foreigners who come to work in our country?	.133	.174

6.10 REDISTRIBUTION

Each of the four items showed positive correlation with the other three items. Yet the coefficients are small. The total Cronbach's α value for the four items was .737, which is *good*. There was no significant difference in the coefficient Cronbach's α when we removed individual items. Therefore, it is not necessary to delete any items.

Cronbach's α = .737	Corrected Item-total Correlation	Cronbach's α If Item Deleted
Q160A. Narrow the gap between the rich and poor.	.466	.713
Q160B. Make sure that everyone has affordable housing.	.583	.645
Q160C. Make sure that everyone has access to basic medical care.	.523	.682
Q160D. Make sure that basic necessities such as food and shelters are provided for everyone.	.549	.666

6.11 DEMOCRATIC DECONSOLIDATION

The Cronbach's α value for the four items is .702, which is considered as *good*. Each of the six items is positively correlated with each of the other questions in this battery. Deleting any of the items from this battery would not have a significant effect on the overall Cronbach's α value, i.e., none of the items would increase the reliability if they were deleted because all values are less than or almost equal to the overall reliability.

Cronbach's α = .702	Corrected Item-total Correlation	Cronbach's α If Item Deleted
Q168. In order to solve the country's urgent problems, a leader can govern	.358	.718

the country by decrees and disregard the parliament if necessary.		
Q169. As long as a government can solve our country's economic problem, it does not matter if the government holds regular elections or not	.533	.610
Q170. This country needs a leader who can break the rules if necessary to get things done.	.591	.570
Q171. As long as a government can solve our country's economic problem, it does not matter if it is democratic or not democratic.	.478	.643

7. EXAMINATION OF REPRESENTATIVENESS OF SAMPLE SET AND WEIGHTING

We conduct goodness-of-fit tests and found that the distributions of areas and age do not match the distributions of two factors in the population. Therefore, we firstly weight the data by area. Then another two weighting factors are calculated using age and education. The final weighting factor, then, is the multiplication of the three weighting factors.

7.1 GOODNESS-OF-FIT TESTS

Area	Sample		Population	Result
	Frequency	Percent	Percent	
Taipei City/New Taipei City/ Keelung Area	454	28%	30%	Chi square= 26.79 P<.001 Not consistent with the population
Taoyuan/ Hsinchu/ Miaoli Area	227	15%	16%	
Taichung/ Changhua/ Nantou Area	291	29%	19%	
Yunlin/ Chiayi/ Tainan Area	238	16%	14%	
Kaohsiung City/ Pingtung Area	238	16%	16%	
Yilan/ Hualien/ Taitung & Outlying Islands	104	7%	4%	
Total	1,532	100%	100%	

Gender	Sample		Population	Result
	Frequency	Percent	Percent	
Male	801	52%	49%	Chi square= 6.5574 P<.05 Not consistent with the population
Female	731	48%	51%	
Total	1,532	100.00	100.00	

Age Group	Sample		Population	Result
	Frequency	Percent	Percent	
20 – 29	259	17%	16%	Chi square= 10.9958
30 – 39	274	18%	17%	
40 – 49	320	21%	20%	
50 – 59	259	17%	19%	P>.05
60 – 70	276	18%	18%	Consistent with the population
71+	144	9%	11%	
Total	1,532	100%	100%	

Education	Sample		Population	Result
	Frequency	Percent	Percent	
Elementary and less	130	9%	12%	
Junior High School	137	9%	12%	
Senior High School	379	25%	27%	Chi square= 47.8367
Vocational	200	13%	12%	
College and Uni	527	34%	29%	P<.001
Master and above	157	10%	8%	Not Consistent with the population
Total	1,530	100%	100%	

Note: There are 2 missing values, which we replace with the mean (3).

7.2 SAMPLE REPRESENTATIVENESS

Area	Before weighting		After weighting	
	Frequency	Percent	Frequency	Percent
Taipei City/New Taipei City/ Keelung Area	434	28.33%	452	29.52%
Taoyuan/ Hsinchu/ Miaoli Area	227	14.82%	247	16.13%
Taichung/ Changhua/ Nantou Area	291	19%	296	19.33%
Yunlin/ Chiayi/ Tainan Area	238	15.53%	219	14.31%
Kaohsiung City/ Pingtung Area	238	15.53%	242	15.81%
Yilan/ Hualien/ Taitung & Outlying Islands	104	6.79%	75	4.9%
Total	**1,532**	**100%**	**1,532**	**100%**

Chi-squared=1.4805, p>0.05, consistent with the population after weighting

Age Group	Before weighting		After weighting	
	Frequency	Percent	Frequency	Percent
20 – 29	259	16.91%	254	16.58%
30 – 39	274	17.88%	266	17.36%
40 – 49	320	20.89%	301	19.65%
50 – 59	259	16.91%	278	18.15%
60 – 70	276	18.01%	269	17.56%
71 +	144	9.4%	164	10.7%
Total	**1,532**	**100%**	**1,532**	**100%**

Chi-squared=1.8243, p>0.05, consistent with the population after weighting

Education	Before weighting		After weighting	
	Frequency	Percent	Frequency	Percent
Elementary and less	130	8.5%	165	10.79%
Junior High School	137	8.95%	157	10.27%
Senior High School	379	24.77%	407	26.62%
Vocational	200	13.07%	187	12.23%
College and Uni	527	34.45%	475	31.07%
Master and above	157	10.26%	138	9.03%
Total	**1,530**	**100%**	**1,530**	**100%**

Chi-squared=1.4805, p>0.05, consistent with the population after weighting

Appendix

1. List of PSU

Area	City/County	Townships and districts (PSU)
Taipei City/New Taipei City/ Keelung Area	Keelung City	Zhongzheng District
	Keelung City	Anle District
	New Taipei City	Yonghe District
	New Taipei City	Banqiao District
	New Taipei City	Sanchong District
	New Taipei City	Xinzhuang District
	New Taipei City	Danshui District
	New Taipei City	Luzhou District
	New Taipei City	Linkou District
	New Taipei City	Zhonghe District
	New Taipei City	Xindian District
	New Taipei City	Tucheng District
	New Taipei City	Xizhi District
	Taipei City	Songshan District
	Taipei City	Xinyi District
	Taipei City	Daan District
	Taipei City	Zhongzheng District
	Taipei City	Zhongshan District
	Taipei City	Wenshan District
	Taipei City	Neihu District
	Taipei City	Shilin District
	Taipei City	Beitou District
Taoyuan/Hsinchu/Miaoli Area	Miaoli County	Yuanli Township
	Miaoli County	Touya Township
	Taoyuan City	Taoyuan District
	Taoyuan City	Zhongli District
	Taoyuan City	Taoyuan District
	Taoyuan City	Gueishan District
	Taoyuan City	Bade District
	Taoyuan City	Longtan District
	Hsinchu City	North District
	Hsinchu County	Zhubei City
	Hsinchu County	Hukou Township
Taichung/Changhua/Nantou Area	Nantou County	Nantou City
	Nantou County	Jhushan Township
	Changhua County	Changhua City
	Changhua County	Lugang Township
	Nantou County	Hwatan Township
	Nantou County	Puxin Township
	Changhua County	Xizhou Township

	Taichung City	Shinan District
	Taichung City	Nantun District
	Taichung City	Beitun District
	Taichung City	Fengyuan District
	Taichung City	Daya District
	Taichung City	Longjing District
	Taichung City	Taiping District
	Taichung City	Shengang District
	Nantou County	Nantou City
Yunlin/Chiayi/Tainan Area	Yunlin County	Do Luk City
	Yunlin County	Xiluo Township
	Chiayi City	Western District
	Chiayi County	Liupin Township
	Tainan City	Rende District
	Tainan City	Yongkang District
	Tainan City	Annam District
	Tainan City	Gia Lai District
	Tainan City	Anding District
	Tainan City	Baihe District
Kaohsiung City/Pingtung Area	Pingtung County	Pingtung City
	Pingtung County	Linluo Township
	Pingtung County	Neipu Township
	Pingtung County	Ligang Township
	Kaohsiung City	Yancheng District
	Kaohsiung City	Sanmin District
	Kaohsiung City	Lingya District
	Kaohsiung City	Fengshan District
	Kaohsiung City	Xiaogang District
	Kaohsiung City	Renwu District
	Kaohsiung City	Meinong District
Yilan/ Hualien/ Taitung & Outlying Islands*	Yilan County	Yilan City
	Yilan County	Zhuangwei Township
	Yilan County	Dongshan Township
	Hualien County	Hualien City
	Hualien County	Shoufeng Township
	Taitung County	Taitung City
	Taitung County	Guanshan Township