

Mid-term? Candidate's Favorability? Referendum Mobilization? An Examination of Mayoral Election of Taichung City, Taiwan in 2018¹

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Abstract

Conventional wisdoms of mid-term election posit that the results of local election reflect voter's assessment of performance of the central government. Meanwhile, the evidence of "all politics is local" continues to be alive in local elections. Both perspectives are advocated by scholars to explain voter's choice in Taiwan's local elections. However, one phenomenal event affecting voter's decision in Taiwan's local election of 2018 is the concurrent implementation of referenda. The three factors are examined by a post-election telephone survey data of Taichung City. In addition to reviewing existing literature of local election, this paper particularly emphasized the electoral impact in Taiwan. It finds the mayoral election of Taichung City has manifestly demonstrated the significant role played by referendum. Impacts come for the government performance, either from the central government or from the local government, are outmatched by the referendum. The incumbent Lin fails to seek re-election has less to do with his mayoral performance or the performance of the DPP administration. The referendum of anti-air pollution has successfully mobilized supporters for the challenging candidate Lu.

keywords: mid-term election, local election, candidate favorability, referendum

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1 Introduction

The results of year-end (24th of November) election in 2018 have deeply caught scholar's attention in Taiwan. On the one hand, the incumbent DPP is unexpectedly suffering a disastrous defeat in the elections for local executive heads and representatives. In the previous election (2014), the DPP had garnered 47.3% of popular vote nationally as contrast to the KMT's 40.7%. In 2018, the distribution has sharply reversed that the KMT wins 48.8% of popular vote while the DPP has only 39.2% (CNA, 2018). In terms of the election for executive heads of the metropolitan cities, counties and cities, the DPP own 13 of the total of 22 in 2014 but the number has decreased to 6 in 2018. On the other hand, unlike previous local elections, the local election of 2018 has accompanied with multiple referenda. After the revisions and enactment of new Referendum Act in 2017, the regulations of initiating and passing a referendum have substantively relaxed. A total of 10 referenda has carried out concurrently with local election. The presence of referenda has delivered crucial electoral impact on voter's choice in election. Post-referenda comments have thus generated various discussions on how the referenda would impact the policy changes as well as the final result of local election.

The search for causes explaining the stunning results of local election in 2018 is not an easy task. The "midterm exams" perspective, for example, emphasizes the performance of the national government would become a cue for voter's choice in local election. Additionally, the perspective of "all politics is local" has made clear the importance of local factors in voter's decision. However, these often-cited discussions do not foresee the potential impact of concurrently-implemented referenda. Though the referenda are mainly addressing to certain policy debates and searching for popular preference, some of them are initiated by candidates or political party-friendly individuals that inevitably carries the effect of political mobilizing in election. Referenda in 2018 are both policy choice as well as candidate choice. It is the concurrence of referenda and election that makes the local election in 2018 unique and important. Scholarly exploration of the year-end election will not complete without assessing the electoral impact of referenda.

That say, the election and referenda in 2018 do not only bring in a new political landscape in Taiwan but also provide a crucial testing ground for the studies of voting behavior in local election. In this paper, we will firstly provide a brief review of mainstream literature of local election. Special focus is on the two competing perspectives of the performance of national government (the "midterm exams"

perspective) and the performance of local government (the “all politics is local” perspective). Secondly, this paper will discuss the role and political impact of referenda in Taiwan. Thirdly, it delineates how the referendum of anti-air pollution initiated by the challenging mayoral candidate of Taichung City transforms into a forum of electoral mobilization. Fourthly this paper will use the telephone survey data collected in Taichung City after the local election to examine the aforementioned competing perspectives. The impact of referendum of anti-air pollution is empirically tested. Finally, a brief concluding of the findings and implications will be provided.

2 Factors affecting Local Election

It is widely recognized that the study of local election has received less attention than the study of national election. Moreover, numerous literature has continued to emphasize the impact national issues on voter’s decisions in local election. A typical example is the perspective of “midterm exams” proposed by Tufte (1975) several decades ago. The core argument of this perspective underlines the presidential performance will deliver a significant impact on congressional midterm elections. Due to the different electoral cycle between the President and the Congress, the midterm election of the Congress is a popular referendum for the incumbent president. Hence a satisfactory presidential performance will help the congressional candidates from the same political party in midterm election. If the president’s performance is not satisfactory, however, voter will attribute her discontent to the congressional candidate who comes from the president’s party. The idea of midterm exams perspective is clear and straight. The application of this idea also takes various form in scholar’s studies. For example, terms such as performance of the President, ranking of presidential approval, performance of the national government, performance of nation’s economy, etc., are often used changeably in current literature of midterm exams. Voter will judge these conditions as a cue for their vote choice in the midterm election. Therefore, the midterm exams perspective is often rephrased as a referendum to the president’s performance (Erikson 1988; Patty 2006).

Relatively speaking, the impact of president’s performance on local election is less noticed as compared with its impact on congressional midterms. The negligence is understandable for local election has always imbedded with the nature of “second-order” election. The impact of local election tends to be local and limited. The findings of local election studies are mainly case by case and are difficult to generate broad application (Piereson 1975; Simon, Ostrom, and Marra 1991; Fuentes and Villodres 2010). Some studies have borrowed the aforementioned midterm exams or referendum

perspective to examine the impact of national factors, particularly the performance of the national government or the president's performance, on local elections. For example, Campbell (1986) finds that president's coattail does produce positive impact on election at state level. Likewise, Holbrook-Provow (1987) points out the results of local election are closely associated with national factors, such as the macro economic performance and president's popularity, which will affect the party's performance at local elections. Simon, Ostrom, and Marra (1991) also echo that the perspective of referendum voting was confirmed in various level of election. Performance of the national government did affect the final outcomes of the elections for the House, Senate, governorships, and upper and lower chambers at the state level.

In Taiwan, studies have pointed out multi-faced factors will influence voter's choice in local election. For example, Lin's study (2008) concludes the importance of issues, candidate favorability, and party identification are important in the election of mayoral election of Taipei City in 2006. Liu (2008) further examines voter's choice of executive heads in four areas, Taipei County, Taichung City, Yunlin County, and Kaohsiung County. Her findings underlines the importance of identity issue (party identification), economic issue (economic performance), and candidate orientation are influential in voter's decision. Additionally, Hsiao and Yu (2008) explores the 2006 mayoral election in the two main municipal cities, Taipei City and Kaohsiung City, and specifies the importance of incumbent mayor's performance is crucial for voter's decision.

In terms of the electoral impact of performance of national government or the president, findings of Wu and Lee (2003) suggest the president's performance is closely associated with the electoral performance of legislative candidates from president's party. As the president performs better, the electoral results of president's party in the legislative election will be satisfactory as well. As well, Hsiao and Huang (2011) indicates when voter is satisfied with the president's performance, she will be more likely to support the legislative candidate from the president's party. Yet, if voter perceives the president has failed to do a good job, she will more likely to vote for the legislative candidate from the opposition party. A broader examination of midterm exams in Taiwan also can be found in the study of Yu (2011). Yu treats the local election of 2009 as a midterm election in Taiwan and uses both aggregate data and survey data to explore the impact of performance of the national government on local election. He finds the opposition DPP had more effective mobilization impact than the incumbent KMT. Meanwhile, the perspective of midterm exams was only partially confirmed in the sense that incumbent party's voters were more likely to continue their

support for the candidates from the incumbent party in local elections if voters perceived the national government had done a satisfactory job.

In summary, existing literatures of local election above-mentioned have shed light on the factors affecting voter's decision. Factors originated from either the national level, such as the performance of central government and the president, or the local level such as the incumbent's performance and candidate's quality (favorability) should be taken into account. Hence, local election is not necessarily local. National issues are also significant in local election. Meanwhile, a noticeable reminder is each election tends to have its own unique context. So the impact exerted by the same factor in different times or different cases might produce different results. The local election in Taiwan in 2018 is a good example to test the electoral impact of factors mentioned above. Nonetheless, beside the local election, there are referenda at the same time. The presence of referenda is a new issue and might influence the results of local election. In particular, when the candidates of local election have deeply involved in the campaign of a referendum, a close examination of the impact of referendum became necessary.

2.1 Referendum Politics in Taiwan

Referendum is a common practice of direct democracy that provides citizen to express her preference on certain policies. It is regarded as a remedy for unfitted policies or a relief for government negligence (Butler and Ranney 1994; Qvortrup 2018). However, unlike those mature democracies, the practice of referendum in Taiwan has embedded more with more partisan struggles than policy deliberation. It is true that referendum, like election, is citizen's political rights manifestly prescribed by the Constitution in Taiwan. Unfortunately, the realization of referendum did not come until 2003 when the Referendum Act has finally finished its legislation. The main reason for the delayed legislation referendum was due to the different calculations between the major political parties, the KMT and the DPP. Before 2000, the DPP had consistently urged the legislation of referendum to make direct democracy possible in Taiwan. Also, the DPP had repeatedly demanded for referendum to redress the KMT's major policies, such as the abolishment of nuclear power plants. Therefore, the then-incumbent KMT had strong concern about referendum would lend the DPP one more tool against the KMT's rule. The DPP's came to power in 2000 made the legislation of referendum more feasible and the Legislative Yuan finally passed the Referendum Act in 2003.

The Referendum Act of 2003 marked a crucial progress of citizen's political participation in Taiwan. Yet, the Act was deeply engraved with partisan intentions by the opposition parties in the Legislative Yuan. Some crucial hurdles obstructing the practice of referendum were purposely written into the Act. Among them, the most notorious hurdle was the two-threshold regulations requesting a successful referendum will need more than 50% of the eligible electorate to register and more than 50% of the registered voters approve the referendum. The two-threshold regulations basically made the pass of referendum almost impossible and the Act was often satirized as "bird-caged referendum." Hence, the invention of referendum in Taiwan, though finally completed, had carried intrinsic predicaments and created rooms for partisan manipulation. As indicated in Appendix A, there were six referenda between 2004 and 2008. None of them were able to pass the first threshold regardless of each referendum's approval had surpassed the disapproval. It was obvious that the legal hurdle set by the Referendum Act of 2003 had successfully deterred the pass of referendum. Equally important, all of the six referenda were proposed by politicians for political purpose. There were far more political calculations for electoral gains than seeking deliberated public opinion on important issues. To some extent, the Referendum Act of 2003 had failed to facilitate direct democracy in Taiwan. Furthermore, it had become another battleground between the two major political parties for electoral benefits (Rigger, 2004). It is anticipated that the voices of revising the Referendum Act of 2003 has become louder and louder.

In 2017, a newly revised Referendum Act was passed by the Legislative Yuan. Among the revisions, the most harmful two-threshold regulations were revised. The new Act prescribes a referendum will be passed by a simple majority of 25% eligible voter's approval. This new regulation has substantively lowered the hurdle and encouraged plenty of referenda in the local election in 2018. The immediate impact of lowering the threshold was obvious, as indicated in Appendix A, a historical high of 10 referenda were proposed and staged together with the local election in 2018. Among the 10 referenda, seven had successfully passed. Unlike previous referenda whose topics were more symbolic, the topics of referenda in 2018 were more focusing on controversial issues such as air quality, same sex mirage, energy policy, and food safety⁵. The newly revised Referendum Act of 2017 did provide a new forum for citizen to express her opinion on crucial and controversial issues. As expected, every turnout rate of each referendum in 2018 is higher than 50% which are way ahead of those

⁵ One exception was the thirteenth referendum (Competing in international sports as "Taiwan") which requests the government to use the name of Taiwan in international sport completion. This referendum carried with figurative ideology of Taiwan independence instead of targeting on specific issue.

referenda in 2004 and 2008. It is reasonable to say referendum in 2018 is a consequential improvement of direct democracy in Taiwan.

2.1 Referendum of Anti-Air Pollution in Taichung City

Taichung City is one of the six municipalities in Taiwan. It is located at central Taiwan with around 2.7 million population which makes it the second largest municipality behind New Taipei City. Actually Taichung City was formally promoted as a municipality until 2010, but her rapid development has attracted special attention as a rising star in Taiwan. Politically, Taichung City has been regarded as one of the few KMT's hardcore territories in early period. Jason Hu, the KMT's mayor, has occupied the mayoral position from 2001 to 2014. The DPP does not defeat the KMT until 2014. The turnover of power in 2014 further enhances the city's political significance and transforms the city a critical battleground between the major political parties. The mayoral election of Taichung City in 2018 thus deserves closer attention.

Moreover, the referenda of 2018 is held in company with the elections for executive heads of municipality cities, counties, and townships, and their corresponding councilors. The synchronization of these two elections also helps to secure the necessary turnout and the final approval of referenda. However, there is one more important but not yet clear issue occurs in the year-end elections of 2018. Namely, even though the concurrently implementation of referenda and local election would favor the success of referenda, will it also favor certain candidates or political parties in the local election? Aforementioned experiences in 2004 and 2008 have plainly suggested politicians and political parties had made good use of referendum to advance their electoral benefits in elections. Once the referendum and election are concurrently implemented, the former is very likely to become an instrument of electoral mobilization. In 2018, the dual role of referendum continues to exist, especially the referendum of anti-air pollution in the mayoral election of Taichung City.

The issue of air pollution has drawn more and more attention in Taiwan in recent decay. Specialists as well as environmentalist activists have repeatedly warned the deteriorating air quality would endanger public's health. The situation often turns worse in winter times when the locally produced emissions join with winter winds blowing in from north (mainly China). Polluted air has covered along the coast line of west Taiwan, particular central and south Taiwan, and become source of popular discontent. Unfortunately, official reactions continuously fail to meet popular expectation and mounting popular disappointment offers political opposition fertile grounds of electoral campaign in the local elections of 2018. One example is the KMT's Lu Shiow-yen took

the advantage and initiated a referendum on anti-air pollution when she was campaigning mayor of Taichung City.

As a challenging mayoral candidate, Lu has successfully connected the hot-debated energy issue and public's concern on air pollution into her campaign agenda. As the DPP President Tsai Ing-wen has repeatedly promised to establish a "nuclear-free homeland" since her presidential campaign in 2016, the debates over energy issue has clearly departed the DPP and the KMT. As the DPP took power after 2016, Tsai administration has aggressively pursued new energies for Taiwan. Previous nuclear-based power facilities which were created by the KMT government are overly discarded. Instead, energies with safe, less carbon emission, and environment friendly are listed as top priority. The effort to establish offshore wind power plants, for example, has been the flagship project for the DPP government.

The Tsai administration's ideas of searching for clean and safe energy is admirable, however, the policy's effectiveness has under critical uncertainty. Sidelining the capacities of existing nuclear-based power facilities would at once create a deficit of needed-energy and the proposed new energies are unable to fill the gap. Increasingly public's suspicions had emerged from the society. The opposition KMT also seizes the opportunity to criticize the DPP's stance in double-quick time. Its tactics is not challenge the ideas of new energies, instead, it persuades the public the existing nuclear-based energy is ready to use without much costs. Meanwhile, the KMT fiercely criticizes the DPP's solutions to fill the gap of needed-energy by expanding the capacities existing thermal-based power plants is a dead-wrong prescription. In particular, the perennial issue of air pollution and public health in Taiwan would further deteriorated.

To be honest, the issue of air pollution has lingered long before the DPP's came to power in 2016. It is also a national issue rather than a local issue specific to Taichung City. Nonetheless, as the DPP is the incumbent party of the central government as well as Taichung City in 2018, the DPP government, either at the national level or at the local level, has to take the responsibility to improve the quality of air. Meanwhile, to salt on the wounded, the DPP government's energy policy is not able to solve the problem in a short period of time. Since existing nuclear-based power plants are not allowed expand or extend their operations. In order to offset the possible shortage electricity, an easy way and perhaps the only way is to increase the production of electricity by existing thermal-based power plants. The immediate popular reaction to the decision is the fear of worsening air quality. The KMT's challenging mayoral

candidate of Taichung City, Lu, takes the opportunity to initiate a referendum of anti-air pollution without the least hesitation in the campaign of mayoral election.

As the referendum of anti-air pollution took shape in the mayoral election of Taichung City, the DPP's incumbent mayor, Lin Chia-lung was stuck into a critical dilemma. On the one hand, the Taichung Power Plant is Taiwan's biggest coal-fired power plant. As central Taiwan is one of the severe areas of air pollution, Taichung Power Plant has been regarded as the major source of air pollution. In fact, as early as Lin assumed the position of city mayor in 2014, Lin had repeatedly demonstrated his determination to improve air quality. He had organized a task force aiming at the improvement of air quality in the neighborhood of Taichung City (CNA 2018). As the referendum evolved, Lin had tried his best to persuade citizens of Taichung City that there were multiple sources of air pollution and the quality of air was improved day by day. Nonetheless, Lin's explanations were not convincing enough to defend the criticisms from the KMT side. On the other hand, Lin had to defend the central government's policy of nuclear-free homeland of 2025. Nuclear-free in Taiwan has been the DPP's official ideology. Lin's defense was in line with the DPP's long term position. Yet, before the nuclear-free mission was accomplished, the existing thermal-based power plants, especially the Taichung Power Plant, had to generate satisfactory quantity of electricity. The burden on Lin's shoulder was clear and heavy. In accordance with the DPP's energy policy, he had to keep the Taichung Power plant to continuously generate electricity at the risk of degrading air quality as well as his popularity.

3 Data and Empirical Analysis

3.1 Incumbent Performance before the 2018 Local Election

Before entering into the discussion of the interaction between mayoral election and referendum in Taichung City, it is necessary to have a preliminary picture of general incumbent performance at the national level as well as at the local level before the 2018 election. As indicated in Figure 1, the periodical survey on presidential approval rating conducted by TEDS (Taiwan's Election and Democratization Study) has suggested an increasingly popular disappointment toward President Tsai. The DPP's presidential candidate Tsai won a strong victory with 56.1% of popular votes on 18th of January, 2016. However, her popularity lasted only half year and dropped sharply. Beginning in the second half of 2016, President Tsai's approval rating was outnumbered by disapproval rating. The declining trend continued to the second half of 2018. Only one fourth of respondents perceived the President had done a satisfactory job in 2018. By contrast, close to 60% of respondents felt dissatisfied with the

president’s performance. In other words, after a very short period of honey moon, the new President’s popularity turned sour quickly. The negative national sentiment toward President during the period of local election in 2018 implies the DPP was not in a good shape then. It also meant, before the local election on 24th of November, 2018, the DPP’s overall performance was a liability rather than an asset for the DPP candidates.

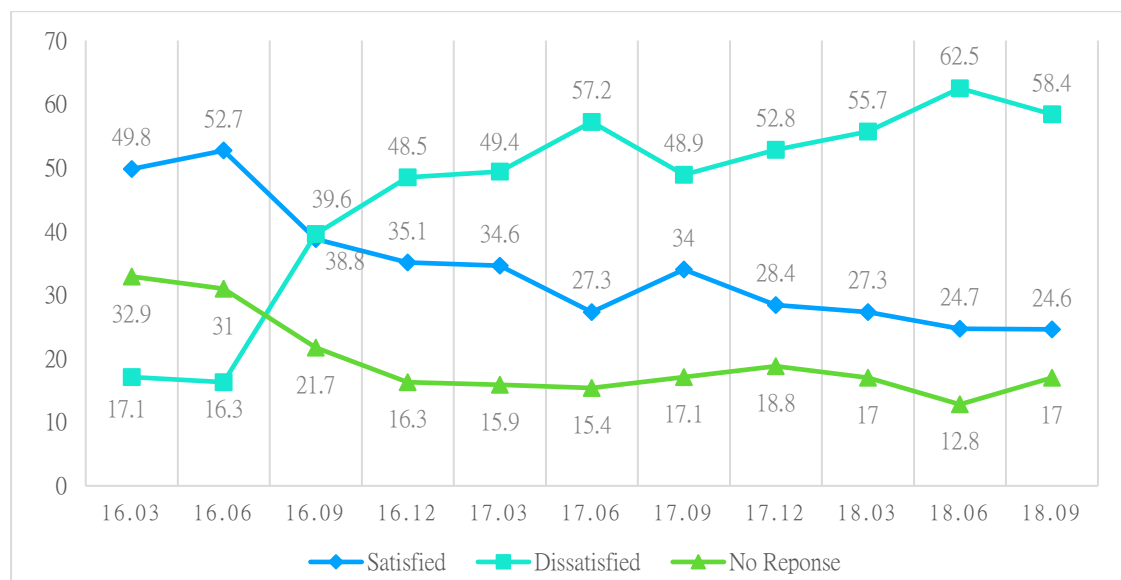


Figure 1 Approval Rating of President Tsai Ing-wen since 2016

Source: TEDS (2019)

Note: Wordings of president’s approval rating goes “*How satisfied are you with Tsai Ing-wen’s overall performance as president since her inauguration?*”

Facing the President’s low approval rating, the performance evaluation of city mayor of Taichung is not so encouraging either. According to the reports by the Common Wealth Magazine, as showed in Table 1, Lin’s performance is mediocre, or even somewhat unsatisfactory, between 2015 and 2018. The Common Wealth Magazine has consistently conducted annual survey to evaluate the performance of local executives since the early 2000s and Lin’s for-year mayor career did not produce enviable achievement. The ranking of his performance was also not shining since its status was in the last one-fourth of all local executives under surveyed. As a mayor of municipal city with more resources than most of other counties in Taiwan, Lin’s performance in Taichung City is not as good as expected.

However, the survey results also revealed another messages if we compare Lin’s performance with his predecessor, the KMT’s Jason Hu. Table 1 also shows Hu’s performance from 2010 to 2014 was a disaster. Not only the performance scores were low, but also the city’s ranking had tumbled close to the bottom of the annual rankings

in the surveys. In 2014, Lin was the DPP challenging candidate competing against the incumbent Hu and won a landslide victory of 57.06% of popular vote as against Hu's 42.94%. Lin's overwhelming victory reflected a deep expectation of good performance by citizens of Taichung City in 2014. In the four-year period as city mayor, Lin has successfully raised the city's ranking. Taichung City has gradually away from the bottom of national ranking from 2014 to 2018, though not in a sizable manner. It is fair to say Lin has led the city to a better direction gradually.

Table 1 Approval Rating of City Mayor of Taichung (CW)

Date	Score	Ranking
11.09 (Jason Hu, KMT)	48.5	21/22
12.09 (Jason Hu, KMT)	48.5	20/22
13.09 (Jason Hu, KMT)	52.22	19/22
14.09 (Jason Hu, KMT)	51.47	18/22
15.09 (Lin Chia-lung, DPP)	52.62	17/22
16.09 (Lin Chia-lung, DPP)	55.01	18/22
17.09 (Lin Chia-lung, DPP)	54.27	16/22
18.09 (Lin Chia-lung, DPP)	52.52	16/22

Source: Common Wealth Magazine (Wikipedia 2019).

To some degree, the pre-election conditions, both national and local, do not bring the lucky rabbit foot for the incumbent Lin. Even though Lin might be seen as an improvement to his predecessor Hu, his fate of pursuing re-election in 2018 seems to be overshadowed by the issues of ill performance. Moreover, the referendum of anti-air pollution initiated by Lu has directly pushed Lin to the corner. In the next section, we will analyze how these issues jointly affective voter's choice in the local election of 2018 in Taichung City.

3.2 Data Description⁶

We first evaluated popular approval ratings of President Tsai, Mayor of Taichung City Lin, and Legislator Lu. As can be seen in Table 2, presidential approval is relatively low, with 28.49% of the respondents approving of President Tsai's performance but more than half (56.74%) of the respondents disapproving. With respect to the two mayoral candidates, about 53% of the respondents being satisfied with Mayor Lin's general performance. About one-third (33.73) of the respondents approves Lu's performance as Legislator. About half (49.38) of the respondents, however, are neither

⁶ We analyzed survey data collected in Taichung by telephone interview from January 12th to 16th in 2019 after the Mayoral election held on November 24th in 2018. The sample size is 1617 with respondents over 18 years old.

satisfied nor dissatisfied with Lu, which implies that citizens in Taichung are not very familiar with Lu.

Obviously, the poor performance of the central government is not contributive to incumbent Lin’s campaign. Fortunately for Lin, he has done a satisfactory job as city mayor for the past four years. Lin’s positive approval rating would be the major source to compensate the liabilities from the central government. Meanwhile, Lu’s approval rating is not as high as Lin’s and more citizens do not have definite evaluation of Lu’s performance. Yet, Lu has received relatively more satisfied than dissatisfied approval ratings due to her reputation as a veteran legislator since 1998. The reason for Lu’s lower degree of recognition as contrast to Lin’s mainly comes from the former has been consistently in the position of legislator with specific constituency while the later has been an incumbent mayor for four years. Hence, it is reasonable to argue the two competing candidates, Lin and Lu, have enjoyed a positive image among citizens of Taichung.

However, it is clear that Lin’s credibility could be severely undermined on the issue of air pollution. In contrast to popular approval rating of Lin’s general performance, more than half (54.76%) of the respondents are not satisfied with Lin’s performance to improve air quality in Taichung City. As for the vote choice, relative majority of respondents have chosen Lu over Lin in the survey. 33.6% of respondents reveal their support for Lu and 26.8% of respondent for Lin. In addition, there is a substantially number of respondents decline to express their vote choice or fail to answer the question due to various reasons.

Table 2 Approval Rating and Vote Choice

Performance Evaluation	Satisfied	Dissatisfied	Neither	n
President Tsai	28.49	56.74	14.77	1618
Mayor Lin	52.72	34.61	12.67	1618
Legislator Lu	33.73	16.89	49.38	1616
Mayor Lin on Air Pollution	26.64	54.76	18.60	1618
	Lu	Lin	Missing	n
Vote Choice in the Mayoral Election	33.6	26.8	39.6	1617

Note: Data was weighted to reflect the characteristics of the population and presented in percentage.

Truly, citizens of Taichung City have long recognized the severity of air pollution. As Table 3 shows that 85.71% of the respondents think that air pollution is a serious problem. Relatively few respondents perceive air pollution is not serious. Regarding to the responsibility of the government on the issue of air pollution, respondents have revealed a general negative attitude. A relative majority, 37.45% of the respondents, thinks that central government should be responsible for the issue while 26.58% of the respondent think that local government should be responsible. Meanwhile, 22.31% of the respondents think that both central and local government should take the responsibility of air pollution in Taichung. One explanation for this distribution is majority of the respondents perceive the air pollution is a national-wide issue to be taken care by the central government. The issue is related to industrial, energy, and environmental policies designed by the central government. What Taichung City can do is to do with local regulations of air pollution but less to do with these policies aforementioned. Yet, it is noticeable that considerable respondents also attribute more responsibility to the local government. Given the DPP has ruled both Taichung City and the central government, it comes naturally that the DPP incumbent, both the central and local government, is to be blamed on the issue air pollution. Finally, it can be seen that 44.96% of the respondents voted for “yea” on “reducing output from thermal power plants” while only 8.16% voted for “nay” on the same issue. 43.54% of the respondents, however, did not take the referendum ballot or rejected to reveal their voting choice.

Table 3 Popular Attitudes toward the Issue of Air Pollution (%)

	Serious	Not Serious	Neither	N		
Severity of Air Pollution	85.71	10.20	4.08	1617		
	Central Government	Local Government	Both	Neither	Missing	N
Responsibility for Air Pollution	37.45	26.58	22.31	2.22	11.43	1618
	Disagree	Neither	Agree	Missing	N	
Referendum of Reducing Output from Thermal Power Plants	8.16	43.54	44.96	3.34	1617	

Note: Data was weighted to reflect the characteristics of the population and presented in percentage.

One interesting result from these performance issues is respondent's evaluation of incumbent Lin. Majority of respondents maintain a positive assessment toward Lin's mayoral performance while another majority of respondents make a dissatisfied score to Lin's performance in curbing air pollution. The impact of this discrepancy these two items is worthy of further exploration. Meanwhile, as discussed above, the issue of air pollution should not be confined within the territory of Taichung City. Instead, it is a national issue that the central government should co-share the responsibility with Taichung City. Nonetheless, even the respondents perceive the former should bear more responsibility than the later, the incumbent Lin finds no room to escape from this liability. He has to inherit all the liabilities in as he campaigns for his re-election.

The challenging Lu, not surprisingly, takes this issue for her electoral advantage. She has a relatively positive image as a veteran legislator. However, she has no experience of executive heads and was not regard as a very strong candidate when she competed for candidate nomination within the KMT. Thanks to the public perception of the severity of air pollution, Lu was allowed to propose the referendum on anti-air pollution in the mayoral election. She has effectively delivered the messages to the public that the pressing issue of air pollution issue should be deal with immediately while the incumbent Lin and the Tsai administration have failed in the past four years. The referendum of anti-air pollution has thus transformed into a crucial electoral issue in the mayoral election.

3.3 Results of Analysis

To examine whether the issue of air pollution in Taichung strengthens public support for Lu, we model voting choice of mayoral election as a function of several variables. The outcome variable is whether voting for Lu or not, which is a dichotomous variable. With respect to the main explanatory variables, we measure both electoral motivation and issue voting. The former is measured by the voting choice of the Referendum "Reducing Output from Thermal Power Plants," which was recoded as two dummy variables, *Agreement* and *Disagreement*, with *Neither* as the reference category. The latter is measured by the evaluation of air pollution, which was coded as two dummy variables, *Serious* and *Not Serious*, with *Neither* as the reference category.

We also included a number of control variables that are considered as factors affecting public voting choices. First, public approval of Lu was measured by two dummy variables, *Satisfied* and *Unsatisfied*, with *Neither* as the reference category. Second, public approval of Mayor Lin was also measured by two dummy variables, *Satisfied* and *Unsatisfied*, with *Neither* as the reference category. Third, two continuous

variables ranging from 0 to 10 were used to present public feeling for candidate Lu (*Preference for Lu*) and Mayor Lin (*Preference for Lin*). Fourth, three dummies were used to present public evaluation of the responsibility for air pollution. Fifth, two dummies were used to present public evaluation of mayoral performance on dealing with the problem of air pollution. Sixth, three dummy variables, KMT, DPP, and Small Parties, were used to measure public partisanship, with Neutral as the reference. Seventh, respondents' age was divided into five groups with ten years as a unit. Eighth, dummy variables, Junior High, Senior High, College, and University and above reflected the educational levels of respondents, with elementary school or illiterates as the reference group. Finally, Female was the gender of respondents with Male as the reference.

We applied the logit model for voting behavior because the outcome variable is dichotomous. The results of analysis are presented in Table 3 and several findings are summarized as follows. First, no matter whether respondents are in agreement on the referendum or not, they are more likely to vote for the challenger Lu, compared to respondents without specific preferences for the referendum. This finding implies that voters participate in the referendum due to electoral mobilization rather than issue-based considerations. Second, we find that how voters view the problem of air pollution is not associated to their voting behavior in the mayoral election. This result further confirms our argument that the referendum (or the issue of air pollution) is manipulated as a tool in electoral competition rather than a direct vote on a proposal for policy making.

Third, the respondents who are not satisfied with Mayor Lin's performance on dealing with the problem of air pollution are more likely to vote for Lu. However, which institution should take the responsibility for air pollution is not associated with voters' voting choices of mayoral election. This implies that, to voters, neither central nor local government should take the responsibility for air pollution. Fourth, the results show that voters' personal affections towards the two major candidates are related to their voting choices. In specific, the respondents with preference for Lu are more likely to vote for Lu while those with preference for Lin are less likely to vote for Lu. Fifth, presidential approval is not related to voting behavior in mayoral election. This result suggests that the low approval rating of President Tsai does not cause the lost in the mayoral election in Taichung City. Finally, as the findings in the studies of Taiwan politics, partisanship plays an important role in elections. That is, the supporters of KMT are more likely to vote for Lu while those of DPP are less likely to vote for Lu.

Table 3 Voting Choice in the Mayoral Election

Explanatory Variable	Voting for Lu
Voting on Air Ref (Neither=0)	
Agreement	2.05 (0.26)*
Disagreement	1.72 (0.49)*
Air Pollution (Neither=0)	
Serious	-1.09 (0.82)
Not Serious	-0.64 (0.88)
Approval for Lu (Neither=0)	
Satisfied	0.70 (0.27)*
Unsatisfied	-0.49 (0.35)
Preference for Lu	0.44 (0.08)*
Mayoral Approval (Neither=0)	
Satisfied	-0.35 (0.44)
Unsatisfied	0.52 (0.45)
Preference for Lin	-0.28 (0.08)*
Presidential Approval (Neither=0)	
Satisfied	-0.79 (0.51)
Unsatisfied	0.33 (0.45)
Responsible to Air Pollution (Both=0)	
Central Gov.	-0.06 (0.29)
Local Gov.	-0.37 (0.32)
Neither	-1.23 (1.28)
Mayor on Air Pollution (Neither=0)	
Satisfied	-0.26 (0.45)
Unsatisfied	0.86 (0.40)*
Partisanship (Neutral=0)	
KMT	1.54 (0.27)*
DPP	-1.22 (0.36)*
Small Parties	-0.50 (0.58)
Age (20-29=0)	
30-39	-0.31 (0.40)
40-49	-0.72 (0.42)
50-59	-0.48 (0.43)
60 and above	-0.45 (0.46)
Education (Primary and below=0)	
Junior high	0.13 (0.66)
Senior high	-0.54 (0.60)
College	-0.16 (0.65)
University and above	-0.40 (0.60)
Female	0.22 (0.23)
Intercept	-1.44 (1.12)
No. of Observation	928

Note: *: $p < 0.05$.

To show how voters' behavior of referendum and evaluations on the seriousness of air pollution affect their support for Lu, we provide predicted probabilities in Figure

2. The predicted probabilities were calculated by the following steps. First, we select a subset of respondents who have no missingness in all covariates in the logit model, which consists of 928 samples. Second, we calculated predicted probabilities via the observed-value approach (Hanmer and Ozan Kalkan, 2013). That is, we used the observed values for the covariates when we assigned a hypothetical value for the key explanatory variable. Third, we took the mean of the 928 predicted probabilities. It shows strong resemblances with Table 3 that the agreement/disagreement of anti-air pollution referendum is the most powerful variable explaining for the support for Lu. Evaluations of candidate's performance are also important but in a less significant way.

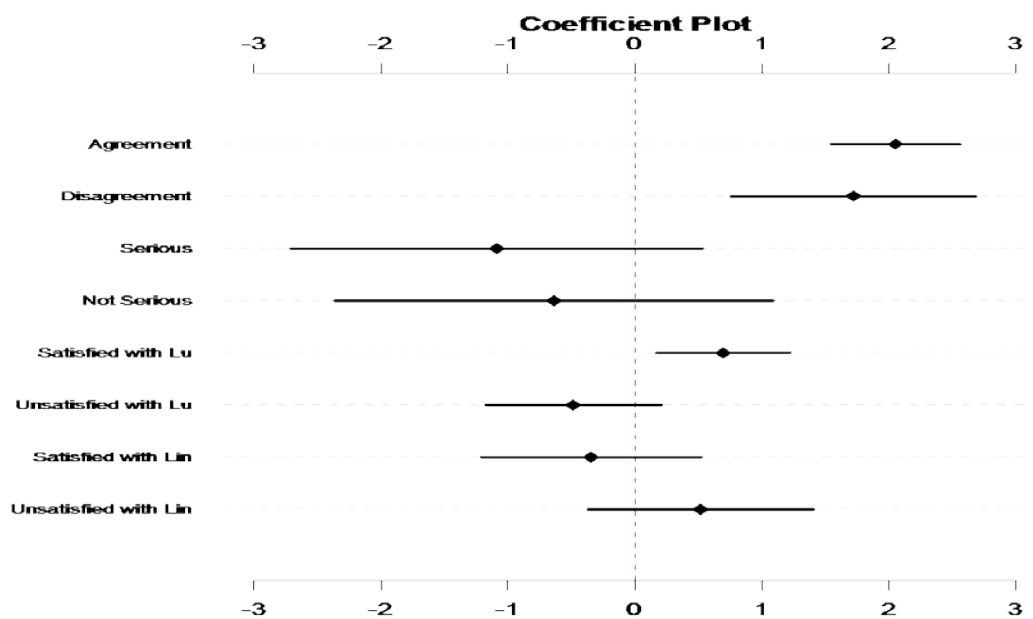


FIGURE 2. Coefficient Estimates with 95% Confidence Intervals.

Finally, we repeated the procedure for all the six scenarios presented in Figure 3. As can be seen in Figure 3, respondents with both agreement and disagreement on the referendum of anti-air pollution are more likely to vote for Lu while respondents who abstained or rejected to answer are less likely to vote for Lu. This finding that participation in referendum is associated with the support for Lu suggests that participation in referendum is driven by mobilization rather than the concern about the issue itself. By the same token, respondents without specific opinion on the severity of air pollution are more likely to vote for Lu. But there is only a small difference between the two distinct views on the seriousness of air pollution. This finding suggests that the opinion on air pollution is not closely related to the support for Lu.

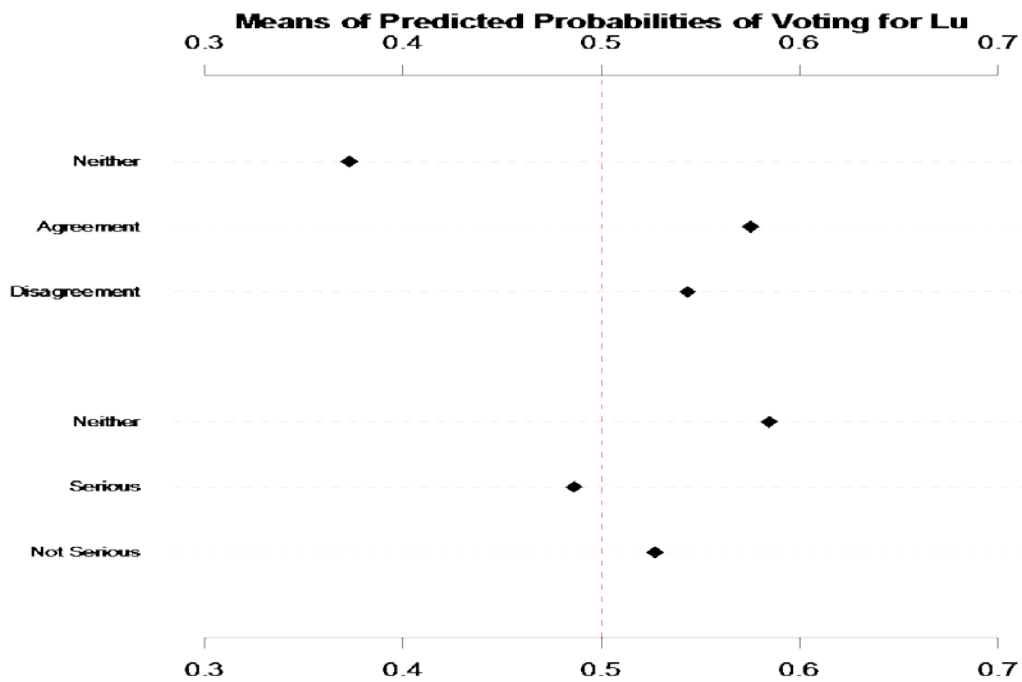


FIGURE 3. Means of Predicted Probabilities for Main Explanatory Variables.

4 Conclusions

The local election of 2018 in Taiwan is not just a local election. Existing theories fall short of providing satisfactory explanation given the new presence of referenda in the campaign process. Echoing to traditional findings of electoral behavior, individual candidate's favorability continues to be important for voter's choice, but its effect was less significant compared with the referendum. Moreover, the classic arguments emphasizing the impact of "midterm exams" or referendum voting in midterm election do not hold. By contrast, the case study Taichung City has shown the strong impact of referendum on mayoral election. The referendum proposed by the challenger Lu has served as a forum of campaign mobilization. In particular, it is not voter's attitude toward the severity of air pollution per se, but voter's alliance with the referendum that triggers their support for Lu.

Two additional points can be extended from the findings of this paper. One is related to the concern of political accountability and the other is related to role of referendum in Taiwan. The issue of air pollution is a lengthy issue which is unable to be solved overnight. Both the KMT government and the DPP government have failed

to address this challenge for decades. It is not fair to expect the Taichung City, as a local government, to effectively respond to this issue in a short period of time. Moreover, the performance reputation and individual favorability of incumbent Lin were not fatally negative. As the mayoral election was eclipsed by the issue of anti-air pollution, Lin's fate of re-election also doomed. Of course, air pollution can be seen as a national issue. It is the DPP government at the national level fails to counteract the deteriorating air quality. Mayor Lin was a scapegoat for the blames.

Last, but not the least, the electoral impact of referendum has increased dramatically after the thresholds of passing were lowered. An even augmented significance will emerge when it is practiced in company with election. Ideally, referendum is one of the efforts to save the wrong doings of the Executive and Legislative bodies. The intimacy between the two will bring in the risk of creating more uncertainties for themselves. Sometimes referendum will play the assist role in elections. This has been occurred often in Taiwan's referenda since 2004. The catch is referendum is no more a referendum per se but an instrument of electoral mobilization. The original mission of referendum is thus evaporated. An encouraging development is some of the 10 referenda in 2018 were not directly involved with partisan struggles in election. Such as the referenda of same sex marriage, though still in fervent controversies in society, did firstly provide an open opportunity for public discussions. Also, there are arguments supporting for the concurrent implementation of referendum and election. Increasing the turnout of referendum, for example, is the most cited advantage for the mixture of referendum and election at the same time. Higher turnout implies higher popular participation, though not necessarily equals to more deliberation, which is essential for the functioning of democracy. This is an issue to be carefully considered in Taiwan.

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Appendix A Results of Referenda since 2004

No	Electorate	Registered voter	Valid vote			Invalid vote	Turnout (%)	% of Agree vote to electorate	Result	
			Agree (%)	Disagree (%)	Total				Pass	Not Pass
1 ⁰⁴	16497746	7542340	6511216(91.8)	581413(8.2)	7092629	359711	45.72	39.47		v
2 ⁰⁴	16497746	7444148	6319663(92.05)	545911(7.95)	6865574	578574	45.12	38.31		v
3 ⁰⁸	17277720	4550881	3891170(91.46)	363494(8.54)	4254644	296217	26.34	22.52		v
4 ⁰⁸	17277720	4505927	2304136(58.17)	1656890(41.83)	3961026	544901	26.08	13.34		v
5 ⁰⁸	17313854	6201677	5529230(94.01)	352359(5.99)	5811589	320088	35.82	31.94		v
6 ⁰⁸	17313854	6187118	4962309(87.27)	724060(12.73)	5686369	500749	35.74	28.66		v
7 ¹⁸	19757067	10780050	7955753(79.04)	2109157(20.96)	10064910	715140	54.56	40.27	v	
8 ¹⁸	19757067	10769528	7599267(76.41)	2346316(23.59)	9945583	823945	54.51	38.46	v	
9 ¹⁸	19757067	10779322	7791856(77.74)	2231425(22.26)	10023281	756041	54.56	39.44	v	
10 ¹⁸	19757067	11024945	7658008(72.48)	2907429(27.52)	10565437	459508	55.80	38.76	v	
11 ¹⁸	19757067	11010104	7083379(67.44)	3419624(32.56)	10503003	507101	55.73	35.85	v	
12 ¹⁸	19757067	11014976	6401748(61.12)	4072471(38.88)	10474219	540757	55.75	32.40	v	
13 ¹⁸	19757067	11042795	4763086(45.20)	5774556(54.80)	10537642	505153	55.89	24.11		v
14 ¹⁸	19757067	10940467	3382286(32.74)	6949697(67.26)	10331983	608484	55.37	17.12		v
15 ¹⁸	19757067	10931837	3507665(34.01)	6805171(65.99)	10312836	619001	55.33	17.75		v
16 ¹⁸	19757067	10832735	5895560(59.49)	4014215(40.51)	9909775	922960	54.83	29.84	v	

Source: Central Election Commission, Taiwan, R.O.C.

Note: “04”: referendum in 2004; “08”: referendum in 2008; “18”: referendum in 2018.

Contents of Referenda since 2004

1. Anit-China's Missile

The people of Taiwan demand that the Taiwan Strait issue be resolved through peaceful means. Should the Communist Party of China refuse to withdraw the missiles it has targeted at Taiwan and to openly renounce the use of force against us, would you agree that the government should acquire more advanced anti-missile weapons to strengthen Taiwan's self-defense capabilities?

2. Peace and Stability Framework

Would you agree that our Government should engage in negotiation with the Communist Party of China on the establishment of a "peace and stability" framework for cross-strait interactions in order to build consensus and for the welfare of the peoples on both sides?

3. KMT's Assets Referendum

Do you agree that the following principles should be followed to legislate a 'Regulation for the Disposal of Properties Inappropriately Acquired by Political Parties', in order to return such properties of the Kuomintang to the people?: Kuomintang's and its associate organization's properties – outside of party dues, political donations, and public subsidies – should be presumed inappropriately acquired and returned to the people. Those already liquidated, the party should compensate at market value.

4. Anti-Corruption

Do you agree that legislation should be enacted to investigate the responsibility of leaders of the nation and their subordinates, when there is grave damage to the nation due to their wrongful intentions or grave failure in carrying out their duties? Further, do you agree that Commissions of Inquiry should be set up by the Legislative Yuan to investigate such matters; and that the departments of the government should co-operate fully without resistance, in order that the benefits of the people will be preserved? That the personnel criminally at fault should be punished and their illegal income be recovered?

5. DPP's UN Referendum

In 1971, the People's Republic of China joined the United Nations, replacing the Republic of China and making Taiwan an international orphan. Do you agree that the government, in a strong expression of the will of the Taiwanese people and in order to elevate Taiwan's international status and promote its international participation, should join the United Nations under the name 'Taiwan'?

6. KMT's UN Referendum

Do you agree that our country should apply to return to the United Nations and enter other organizations using a pragmatic and flexible name strategy, that is, do you approve applying to return to the United Nations and joining other international organizations under the name the 'Republic of China,' 'Taiwan' or another name that facilitates success while maintaining dignity?"

7. Reducing output from thermal power plants

Do you agree "To reduce by 1% year by year" the electricity production of thermal power plants?

8. Ceasing expansion of coal power plants

Do you agree to the establishment of an energy policy to "Stop construction and expansion of any coal-fired thermal power plants or generator units (including the Shen Ao Power Plant currently under construction)"?

9. Prohibition of food imports from Fukushima area

Do you agree that the government should maintain the prohibition of agricultural imports and food from areas affected by the Fukushima March 11th Disaster? Specifically, those from Fukushima proper and the 4 surrounding districts and cities of Ibaraki, Tochigi, Gunma, and Chiba?

10. Restricting marriage under Civil Code to one man and woman

Do you agree that marriage defined in the Civil Code should be restricted to the union between one man and one woman?

11. Not implementing homosexual aspect of Gender Equality Education Act

Do you agree that the Ministry of Education should not implement the Enforcement Rules of the Gender Equality Education Act in elementary and middle schools?

12. Protecting rights of same-sex couples outside of the Civil Code

Do you agree to the protection of the rights of same-sex couples in co-habitation on a permanent basis in ways other than changing of the Civil Code?

13. Competing in international sports as "Taiwan"

Do you agree to the use of "Taiwan" when participating in all international sport competitions, including the upcoming 2020 Tokyo Olympics?

14. Protection of same-sex marital rights

Do you agree to the protection of same-sex marital rights with marriage as defined in the Civil Code?

15. Implementing the Gender Equality Education Act

Do you agree in accordance with the Gender Equality Education Act that national education of all levels should educate students on the importance of gender equality, emotional education, sex education, and same-sex education?

16. Repealing the planned end of nuclear power stations

Do you agree to repeal Article 95 Paragraph 1 of the Electricity Act: "Nuclear-energy-based power generating facilities shall wholly stop running by 2025"?