

# Presidential coattails in Taiwan: An analysis of voter- and candidate-specific data ☆,☆☆



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## ABSTRACT

Considerable empirical evidence demonstrates presidential coattail effects in elections held in the US. Employing hybrid logit and mixed logit models that analyze data collected from voters and candidates in Taiwan, this study examines coattail effects in a non-American setting. The findings show that presidential coattails exert powerful influences on Taiwanese citizens' vote choices and take the form of conversion. Contrary to American experiences, the mediating role of incumbency is quite minimal. Presidential coattails thus provide the president with an important source of influence in the legislative body. The linkage between presidential and legislative politics through coattails can help the operation of Taiwan's democratic institutions. Future research on voting behavior needs to consider voter characteristics as well as candidate attributes.

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Coattail effects are generally characterized as the influence of an election for an upper-level office on an election for a lower-level election. Such effects usually occur when there is a high-profile campaign for a higher office like presidency or governorship. The attractiveness of candidates for this office may bring voters to the polls and

influence their vote decisions by casting a straight ticket for candidates with the same party label running for lower-level offices such as seats in the Congress or in state legislatures. Thus, coattail effects may be brought about in two ways during elections. They can occur through mobilizing previous nonvoters to the polls so that they will also vote for candidates of the same party for lower offices. Or, coattails can happen by converting voters' support, who would otherwise vote for candidates of another party (Calvert and Ferejohn, 1983; Miller, 1955–56: 366). In both scenarios, coattail effects are demonstrated when voters cast a straight ticket in the elections of both offices that are held concurrently due to the attractiveness of candidates for upper-level offices.

Empirical analyses of coattails so far have primarily been conducted in the American context, largely as presidential coattails in US congressional elections with a few on the effects on elections of state legislatures (Campbell, 1986a; Hogan, 2005). Findings from these studies show that coattails do exhibit effects in elections but such effects vary according to voters' evaluations of candidates and candidates' incumbency status (Born, 1984; Campbell and Sumners, 1990; Flemming, 1995; Jacobson, 1976, 2009;

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Kritzer and Eubank, 1979; Mattei and Glasgow, 2005; Mondak, 1990, 1993). Previous research also demonstrates that coattail effects have ebbed over time and some studies even conclude that they rarely play a defining role in final electoral outcomes (Calvert and Ferejohn, 1983; Campbell, 1986b, 1991; Edwards, 1979; Ferejohn and Calvert, 1984; Kritzer and Eubank, 1979; Thorson and Stambough, 1995). Despite these rich findings based on American experiences, there are only a few empirical studies conducted in non-American settings (Golder, 2006; Magar, 2012). It begs the question whether generalizations from American experiences are equally applicable to non-Western democracies. Furthermore, it is worth noting that none of these previous studies has systematically assessed the effects of candidates' characteristics on coattails despite recognizing the importance of choice attributes. Indeed, empirical research has shown that choice attributes may significantly affect individuals' voting decisions. A proper analysis of presidential coattails thus requires data collected at both voter as well as candidate levels.

The case of Taiwan provides such an opportunity. Generally characterized as a semi-presidential system, the island country for the first time held the presidential election in 2012 concurrently with the election of its unicameral parliament, known as the Legislative Yuan (LY). Hoping that their charms could help their legislative running mates, presidential candidates of both the ruling Nationalist Party (the KMT) and the opposition Democratic Progressive Party (DPP) fiercely campaigned for their parties' legislative candidates. Thus, is the phenomenon of coattails a reality in Taiwanese politics as in American politics? If it is not a myth, do citizens' characteristics and candidates' attributes affect the magnitude of presidential coattails? Employing hybrid logit and mixed logit models, this study analyzes data collected at both voter and candidate levels. The findings show that presidential coattails were a powerful source of influence in Taiwan's 2012 elections as those who voted for incumbent President Ma Ying-jeou tended to support the ruling KMT candidates in the legislative election. Contrary to American experiences, the mediating role of incumbency in coattail effects is quite minimal. Thus, if used properly, presidential coattails should provide the president with an important source of influence in the legislative body and help to promote the president's campaign promises. Coattails also provide a linkage between presidential and legislative politics that can help the operation of Taiwan's democratic institutions.

## 1. Coattail effects in US elections

Interests in presidential coattails can trace back at least to Bean's study of the effects of presidential elections on the electoral outcomes of US Congress (1950; 1972a; 1972b). Largely generated from studies on the association between presidential and Congressional elections, the cumulated empirical evidence so far seems solid enough to suggest the existence of presidential coattails in American politics. Although the magnitude of such effects has been found to be declining (Calvert and Ferejohn, 1983; Campbell, 1986b, 1991; Edwards, 1979; Ferejohn and Calvert, 1984; Kritzer and Eubank, 1979; Thorson and Stambough, 1995), the

general consensus is that presidential campaigns, by their presence in on-year and their absence in off-year elections, significantly affect the outcomes of legislative elections at both federal and state levels. In on-year elections, presidential candidates by virtue of their charisma and the resources they bring to the campaigns attract additional support for their congressional running mates as well as for their parties' candidates for state legislative seats. The winning presidential party is thus able to garner seat gains in both Congress and state legislatures when these elections are held concurrently with presidential elections. Such spillover effects do not exist in mid-term elections since presidential elections in the US are held at an interval of 4 years. Without a popular candidate at the top of the ticket, the president's party frequently suffers off-year election losses. The presence and the absence of presidential coattails have been used as an explanation for the "surge and decline" of congressional elections in the United States (Campbell, 1986a, 1991).

The above findings are primarily based on aggregate voting data. Employing evidence collected at district level, these studies compare and examine the relationship between percentages of votes acquired by presidential candidates and their congressional running mates. The advantages of using aggregate data are that the data are comprehensive and allow analyses between districts at any one time and within the same district over time (Edwards, 1979). The key shortcoming is that aggregate voting data do not permit the analysis of voter motivation. As Miller (1955–56) convincingly argued more than five decades ago, voting for a congressional candidate "may be impelled by a sensitivity to factors uniquely associated with the particular congressional contest" (p.358) and the appeal of a presidential candidate is only one. Thus, "[w]here such factors are at all important to the voter he will be less readily influenced by the existence of presidential coattails" (p.358). To avoid the possibility of committing the ecological fallacy, erroneously drawing conclusions about individual characteristics from group data, several studies thus employ survey data collected at an individual level (Calvert and Ferejohn, 1983; Jacobson, 2009; Mondak, 1990; Mondak and McCurley, 1994; Miller, 1955–56).

## 2. Voter- and candidate-specific characteristics

Some studies based on individual level data have treated presidential coattails as a function of external cues in a decision-making process (Mondak, 1990; Mondak and McCurley, 1994). It is argued that information on congressional candidates during campaigns is usually not available, costly or sometimes even confusing. Voters may have to rely on external sources as their information short-cuts to help them in their voting decisions. In a presidential system like the United States, the presidency is generally regarded as the most important electoral prize and presidential candidates naturally become the focus of a campaign. As voters recognize the overwhelming importance of the presidency relative to other political offices, presidential candidates' charisma and policy stands become the dominant cues in citizens' voting calculus. By a simple transmission, the presidential vote extends to the choice of a

legislative candidate. The gravitational force of a more prominent presidential campaign thus affects the outcome of a less salient legislative election. Following this logic, the analysis of coattails presumes not only a straight ticket for a party's presidential candidate and his/her legislative running mates but also a favorable evaluation of the presidential candidate. Coattail effects will be greatest for voters who strongly prefer one presidential candidate to the other.

While coattail effects are a function of voters' evaluations of presidential candidates they are not invariant to all individuals because a number of voter characteristics may mediate such effects. If a coattail represents a spillover effect from a vote choice in a presidential election to that in a legislative election, coattail voting is most likely to occur to those who are less educated or have less political knowledge. These voters are either not able to or not willing to process the information of congressional candidates. They are thus dependent on presidential candidates as their voting cues. By an extension of their favorable evaluation of a presidential candidate, they may decide to cast a straight ticket in both presidential and legislative elections. However, coattail voting is least likely to occur to those who have strong partisan attachment. For these voters, party labels serve as the most important cues in their voting calculus (Calvert and Ferejohn, 1983; Jacobson, 1976; Hogan, 2005; Mondak, 1990; Mondak and McCurley, 1994).

In addition to the effects of voter-specific characteristics, it is important to recognize that citizens' voting calculus is also conditioned by attributes of the choices available to them. Probably the most recognized candidate attribute is incumbency status. The latest empirical research reaffirms that coattails continue to be important, but it concludes that incumbency is a significantly confounding factor in presidential coattails. Some studies even conclude that candidates' status as an incumbent "mutes the impact of the presidential election outcome" (Mattei and Glasgow, 2005: 637). Indeed, an incumbent candidate usually enjoys considerable advantages over a challenger. These so-called "incumbent advantages" (Box-Steffensmeier et al., 2003; Campbell, 1983; Gordon and Landa, 2009; Prior, 2006) include campaign experiences and campaign financing and the sheer recognition of incumbents' names frequently serves as a voting cue. Recognizing the mediating effects of incumbency, empirical research on coattails has either treated incumbency as a control variable or has limited the research scope to open seat districts (Calvert and Ferejohn, 1983; Flemming, 1995; Kritzer and Eubank, 1979; Mattei and Glasgow, 2005; Mondak, 1993).

Interestingly, despite recognizing the importance of choice attributes, none of the previous studies has systematically assessed the effects of candidates' characteristics on coattails except treating incumbency as a confounding factor. Empirical research has sufficiently documented that citizens' voting choice may rely on candidates' demographic traits as voting cues. For instance, African American candidates are more likely to draw support from black voters (Sigelman et al., 1995; Terkildsen, 1993), while women tend to support female candidates (Cook, 1994; Dolan, 1998; Huddy and Terkildsen, 1993; Plutzer and Zipp, 1996). These findings suggest that individuals' voting decisions

may be determined by voters' as well as candidates' characteristics, and a proper analysis of coattail effects must take attributes of both levels into consideration.

### 3. The 2012 elections in Taiwan

Taiwan's 2012 elections were significant and unique when examining the history of the country's democratization. For the first time since the rapid democratization took place in the late 1980s, Taiwan held its presidential election concurrently with the election of LY. Election results are displayed in Table 1. In a three-way presidential race, the incumbent President Ma Ying-jeou of the KMT won his re-election bid for a second term. His main challenger, Ms. Tsai Ing-wen of the opposition DPP, lost the election by a substantial margin, 800,000 votes out of the 13 million votes cast. The third candidate, James Soong of the People's First Party (PFP), acting like a spoiler, received only 2.8% of the popular votes. Meanwhile, 283 candidates competed under the newly adopted mixed-member majoritarian (MMM) electoral institution for the 113 legislative seats with 73 elected from single member districts (SMDs) and 34 from a proportional representation (PR) list in a nation-wide pool.<sup>1</sup> Not surprisingly, Taiwan's two major political parties took the lion's share in the legislative election. The ruling KMT won a landslide majority with 44 seats from the SMDs and 16 from the PR tier, while the opposition DPP garnered 27 and 13 seats from the SMD and the PR segments, respectively. Only 3 PFP candidates were elected to the LY with 1 through the aboriginal SNTV districts and 2 through the PR tier while the remaining seats were divided by candidates of smaller political parties.

During the elections, the attention of media and voters was on the presidential candidates' characteristics and, particularly, their policy positions on Taiwan's relations with China. All three presidential candidates were US-educated with advanced graduate degrees,<sup>2</sup> and they all have had ample administrative experiences in the government. Each of the three candidates has their own appeals to their followers. Ma's "Mr. Clean" image is a direct contrast to the remnant of the corrupt image of his predecessor – former President Chen Shui-bian of the DPP. Tsai was the first female chairperson of the opposition DPP and the first female candidate for the top job in Taiwan. Her ability to rejuvenate the DPP after the Party's disastrous loss in the 2008 presidential election also attracted considerable support from her followers. Soong's hard-working image as the provincial governor in the 1990s also has his appeal to, albeit a small segment of, the public.

Like Taiwan's other national elections, the issue of cross-strait relations was again at the center of the 2012 presidential election as the debate focused on the "1992 Consensus" or the "one China with respective interpretations" that is endorsed by Ma and Soong but opposed by Tsai. The Consensus is a tacit understanding

<sup>1</sup> The remaining 6 seats are reserved for aborigines elected according to the single nontransferable vote system (SNTV).

<sup>2</sup> Tsai obtained a master's degree from Cornell University Law School and then a PhD from the London School of Economics.

**Table 1**

Results of the 2012 presidential and legislative elections in Taiwan.

| Presidential election  |           |        | Legislative election |           |        |       |         |           |        |       |
|------------------------|-----------|--------|----------------------|-----------|--------|-------|---------|-----------|--------|-------|
|                        |           |        | SMD*                 |           |        |       | PR      |           |        |       |
| Candidates             | Votes     | %      | Parties              | Votes     | %      | Seats | Parties | Votes     | %      | Seats |
| Ma Ying-jeou (KMT)     | 6,891,139 | 51.60% | KMT                  | 6,228,613 | 48.12% | 44    | KMT     | 5,863,279 | 44.55% | 16    |
| Tsai Ing-wen (DPP)     | 6,093,578 | 45.63% | DPP                  | 5,753,218 | 44.45% | 27    | DPP     | 4,556,424 | 34.62% | 13    |
| James C.Y. Soong (PFP) | 369,588   | 2.77%  | PFP                  | 145,507   | 1.12%  | 0     | PFP     | 722,089   | 5.49%  | 2     |
|                        |           |        | NPSU                 | 139,341   | 1.08%  | 1     | TSU     | 1,178,797 | 8.96%  | 3     |
|                        |           |        | Others               | 676,460   | 5.23%  | 1     | Others  | 841,483   | 6.39%  | 0     |

\*Note: Excluding 6 aboriginal seats elected under SNTV system.

reached by Beijing and Taipei in 1992 which allows both sides to recognize the concept of “one China” as the basis for cross-Straits interactions but to finesse the uncomfortable details. Along with the three-no policy of “no unification, no independence, and no use of military force,” this “agree-to-disagree” formula has become the basis of Ma’s engagement policies with China. During the three years of Ma’s first term as Taiwan’s president, Taipei has deepened cross-Straits economic ties and has signed more than a dozen agreements with Beijing, including a landmark trade deal: the Economic Cooperation Framework Agreement (ECFA). Soong’s PFP is a spinoff of the KMT, and its positions are seen as steadfastly opposing Taiwan independence and supporting the island’s eventual unification with the Chinese mainland. The PFP and its members generally support Ma’s engagement policies and thus Soong was not able to distinguish himself from Ma on the issue of cross-Straits relations. Ma’s engagement policies, however, encountered strong objections from Tsai and her DPP followers. To their way of thinking, the “1992 Consensus” merely sugar coats Beijing’s version of the “one China principle” and masks its intention to annex Taiwan. They expressed concern over the deepening of cross-Straits interactions fearing that the island’s increasing dependence on the Chinese market would threaten Taiwan’s economic autonomy and erode the island country’s sovereignty. Ma’s and Tsai’s policy positions thus are the manifestations of the major political cleavage on the island, i.e., whether Taiwan is to be unified with the Chinese mainland or whether it should pursue the island’s formal independence, dubbed as the issue of “unification vs. independence” (Wang, 2012). In general, Tsai’s supporters are more likely to back Taiwan independence, whereas Ma’s followers do not object unification as an option even though the majority of them prefer the maintenance of status quo, at least for now.

Because all three presidential candidates also served concurrently as leaders of their own parties, contestants for legislative seats could not escape their associations with their parties’ presidential nominees. The 2012 legislative election was thus held under the shadow of the presidential campaign as the latter dominated media and voters’ attention. Given this context, it begs the question whether presidential coattails has played any role in Taiwan’s 2012 legislative election.

#### 4. Exploratory analysis of district-level electoral data

If a coattail did produce a spillover effect from a vote choice in the 2012 presidential election to that in the

concurrent legislative election, then a high correlation should be detected between Ma’s and Tsai’s vote shares and that of the KMT’s and DPP’s district legislative candidates. In Taiwan’s 2012 legislative election, the KMT nominated 71 candidates (out of 73 districts) while the DPP, 69. One immediate observable implication of the coattails effect theory is that, among the 67 districts where both parties nominated candidates, vote shares of the two major presidential contenders should go parallel with those district candidates that carry the same party labels. Employing Taiwan’s Political Geography Information System (Huang, 2012), Fig. 1a and b show the electoral maps of the vote-share distribution in Taiwan’s 2012 presidential and legislative elections.<sup>3</sup> Based on the plurality of electoral votes won by the KMT and the DPP in a city/county or district, the figures indeed show similarity of vote-share distribution in geographic areas with a few exceptions. That is, in Taitung County on the southeast side of the island and three districts in central Taiwan, Ma had the plurality of presidential votes but the DPP won the district races in the legislative election. The opposite outcome was true for two districts in Yunlin County and Chiayi County in central Taiwan. Both figures, however, validate the general perception of a Taiwan that is “Blue North and Green South” (the KMT dominates northern Taiwan and the DPP dominates southern Taiwan).<sup>4</sup>

To further explore the relationship between vote shares of the two offices at district level, we run a two-equation seemingly unrelated regressions (SUR) model. In the first equation, the dependent variable is the proportion of KMT legislative candidate’s vote in each of the 67 districts. The two independent variables include the proportion of Ma’s vote in each district and a dummy variable indicating districts with defected candidates who necessarily dragged down the KMT’s vote shares. The second equation is set up likewise for the DPP party. SUR estimation is more efficient than ordinary least squares since it takes into account the two equations’ correlated error terms. The SUR estimates,

<sup>3</sup> Taiwan’s Political Geography Information System (TPGIS) allows users to display village-based, district-based and city/county-based electoral outcomes in Taiwan since the first democratic national-level election of the National Assembly in 1991. The system is free for public access (<http://tpgis.nccu.edu.tw>). It is managed by the Election Study Center of the National Chengchi University (NCCU) and is partly supported by the NCCU’s Top University Project.

<sup>4</sup> For a discussion of Taiwan’s “Blue North and Green South” phenomenon, see Chou (2012).



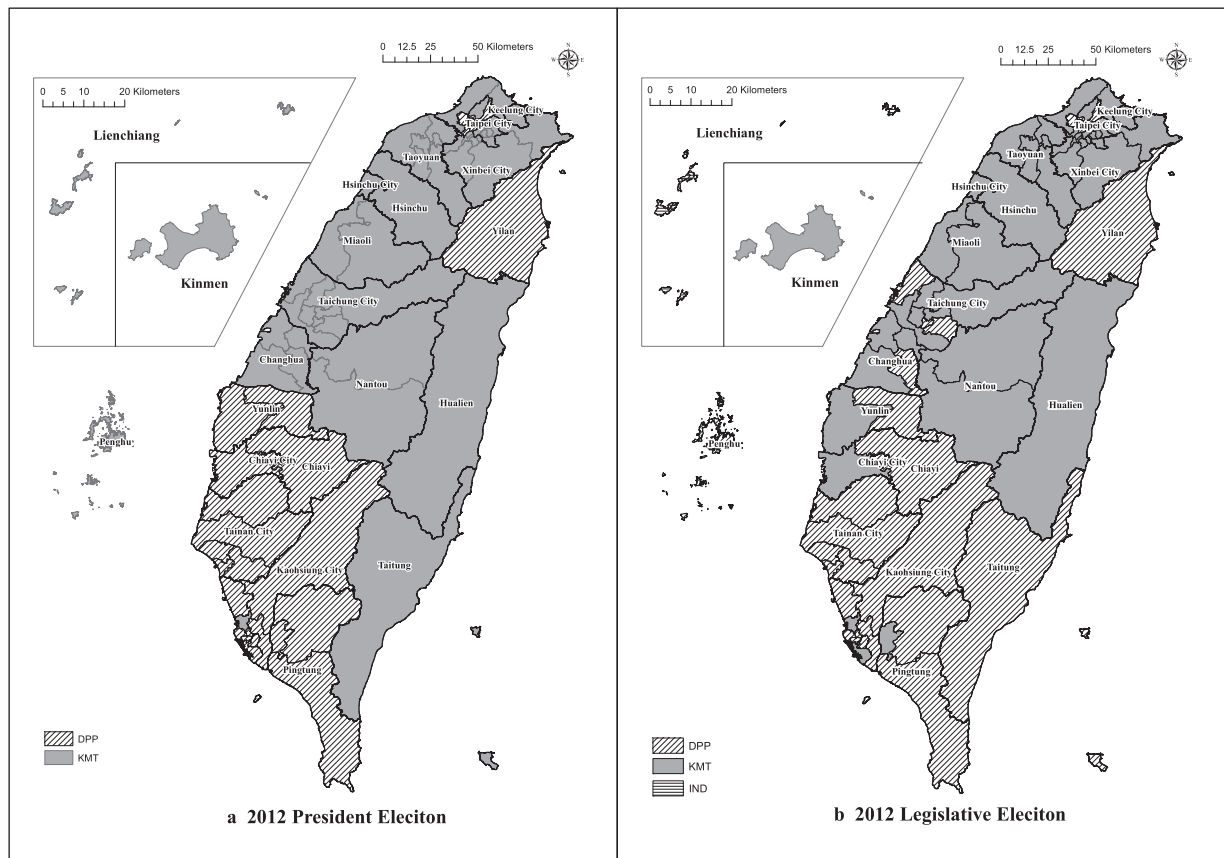


Fig. 1. a & b. geographic distribution of votes in Taiwan's 2012 presidential and legislative elections.

presented in Table 2, confirm the strong relationship between presidential candidates' vote shares and that of the same parties' district candidates. The coefficient of Ma's proportion of vote in the first equation is .791 while that of Tsai's is .963, both highly significant at  $p < .001$  level.

Although district-level aggregate data do indicate a strong and significant relationship between the vote shares of two political offices, they do not allow us to test the existence of coattails effect by controlling extraneous variables such as partisanship. It takes micro data at an individual level to accomplish this task.

## 5. Micro data and methods

This study hypothesizes that voters' support for presidential candidates affect their vote decisions in legislative elections and such effects vary according to their characteristics and candidates' attributes. To examine these hypotheses, it is necessary to assess the relationship between the legislative and presidential votes at the individual level.

<sup>5</sup> The survey data analyzed in this paper was from "Taiwan's Election and Democratization Study, 2012: Presidential and Legislative Election" (TEDS, 2012) (NSC 100-2420-H002-030). The coordinator of the multi-year project TEDS is Professor Chi Huang (the National Chengchi University). TEDS 2012 is a study on the presidential and legislative elections in 2012. The principal investigator of TEDS 2012 is Professor Yun-han Chu. More information is available on the TEDS website (<http://www.tedsnet.org>).

The survey data collected by the Taiwan's Election and Democratization Study (TEDS) Project of 2012 (hereafter TEDS, 2012) are used. Through personal interviews, the survey was conducted under the auspice of the TEDS Planning and Executive Committee.<sup>5</sup> To incorporate candidates' attributes into the analysis, this study augments the TEDS 2012 survey data with candidates' data of the two major parties. The candidate-specific information includes such variables as party affiliation, incumbency, as well as gender, age and education.<sup>6</sup> That is, this study employs a rich dataset that includes not only respondents' characteristics (i.e., case-specific variables, CSVs) but also alternative-specific variables (ASVs) for both KMT and DPP candidates in each sampled district.

### 5.1. The dependent variable

The dependent variable is respondents' district votes for legislative candidates. Such a measurement scheme effectively excludes respondents' PR votes from the analysis. As indicated, Taiwan's MMM system features electoral rules that provide voters with two ballots, one for candidates in SMDs under plurality and the other for political parties

<sup>6</sup> The candidate-specific data are collected by Professor Chi Huang. The authors would like to thank Dr. Yin-lung Chou for pooling candidate-specific data with the voter-specific TEDS survey data.

**Table 2**

SUR estimates of district-level vote shares.

| KMT district vote share    |                  | DPP district vote share |                 |
|----------------------------|------------------|-------------------------|-----------------|
| Ma's vote share            | .791*** (.088)   | Tsai's vote share       | .963*** (.064)  |
| District with defection    | -.237*** (.043)  | District with defection | -.244*** (.043) |
| Constant                   | .087 (.045)      | Constant                | .018 (.030)     |
| Covariance of error terms: | -.0008** (.0003) |                         |                 |

Note: \*\*\* $p < .001$ ; \*\* $p < .01$ . $n = 67$  single-member districts.

log-likelihood = 656.180.

under PR rules. Because coattail effects refer to the association between a presidential vote and the vote choice of individual candidates in a legislative election that is held concurrently with the presidential race, respondents' PR votes are inconsistent with the definition of coattail effects. Based on this measurement scheme, Table 3 presents respondents' self-claimed district votes for legislative candidates and votes for presidential candidates in the 2012 elections. It shows that 85% of the respondents were straight-ticket voters supporting the presidential and legislative candidates of the two major parties – the KMT and the DPP. Less than 3% of them voted for Soong and his PFP legislative running mates. Since the overwhelming majority of respondents casted their district votes in the legislative election for candidates of the two majority political parties, respondents supporting minor parties' legislative candidates are excluded in order to simplify the analysis. Because the employed dataset combines both CSVs and ASVs, two rows of data are included for every respondent and each row corresponds to a party's candidate. A dummy variable, *voter's district vote*, is hence created with 1 to indicate the chosen candidate, and 0 otherwise.<sup>7</sup>

## 5.2. Voter-specific independent variables

If coattails represent spillover effects from presidential votes to legislative votes, such effects must be assessed by reference to respondents' vote choices in the presidential election. After all, coattails can only be present when a voter casts a straight ticket for a party's presidential contender and his/her legislative running mates. Because the dependent variable of the current study is respondents' district votes for the ruling KMT candidates for legislative seats, a dummy variable, *presidential vote for Ma*, is created to measure respondents' vote for the KMT's presidential nominee – incumbent President Ma.

Several control variables are also included in the analysis. Previous discussions hypothesize that coattail voting

is most likely to occur to those who are less educated or have less political knowledge. These voters are thus dependent on presidential candidates as their voting cues. A summation measure of correct responses to three factual questions is created to assess respondents' *political knowledge*. A dummy variable, *college degree (and above)*, is coded 1 for respondents with a college (and above) education and 0 otherwise to control the effect of education. As indicated, the issue of “one China with respective interpretations” was at the center of the 2012 presidential election and a dummy variable, *support for the 1992 Consensus*, is created to assess respondents' positions on the issue. It is coded 1 for respondents backing the Consensus and 0 otherwise. Because incumbent President Ma endorsed the Consensus, it is expected that those who support the 1992 Consensus are more likely to support KMT candidates in the legislative election.<sup>8</sup> Previous studies found that respondents' party identifications and identity of being a Chinese or a Taiwanese have substantial effects on their political behaviors (Chang and Wang, 2005; Wang and Chang, 2005; Liu and Ho, 1999). Several dummy variables are thus included. Respondents' party identification is recoded into two dummy variables, *Pan-Blue affiliation* and *Pan-Green affiliation*, which are coded 1 for respondents in the relevant category and 0 otherwise, with nonpartisan voters as the baseline group. Respondents of the pan-Green camp include those who are identified with the DPP and the Taiwan Solidarity Union (TSU), while respondents of the pan-Blue camp are those who are identified with the KMT, the PFP, and the New Party. The island citizens with a *Chinese identity* or a *dual identity*, considering themselves as both Chinese and Taiwanese, are coded 1 in the relevant categories and 0 otherwise, while respondents with a Taiwanese identity serve as the baseline group. To control the effects of respondents' demographic characteristics, a series of dummy variables are created. Treating *Minnan* as the baseline ethnic group, two dummy variables: *Hakka* and *mainlander* were created, which are coded 1 for respondents in the relevant category and 0 otherwise.<sup>9</sup> *Female* is coded 1 for female respondents and *age* is a continuous variable which is measured by the number of years since birth.

<sup>8</sup> A frequently employed indicator of assessing Taiwan citizens' position on cross-strait relations is their positions on the issue of “unification vs. independence.” However, this study finds that including or excluding measures of the issue, along with *support for the 1992 Consensus*, does not affect the substantive conclusions since the associated coefficients are statistically insignificant. For the sake of having a parsimonious model, the current analysis excludes measures of respondents' positions on the issue of “unification vs. independence.”

<sup>9</sup> Taiwan has four major ethnic groups: *Minnan*, *Hakka*, *mainlanders* and *aborigines*. *Minnan* refers to island residents whose ancestors migrated to Taiwan from the Chinese mainland several hundred years ago and is the largest ethnic group at 77 percent of the island's twenty three million people. About 10 percent of Taiwan's total population is *Hakka*, descendants of immigrants who came to the island at roughly the same time as the *Minnan* from areas in central China. *Mainlanders* refer to those Chinese migrants who fled to the island at the end of the Chinese civil war, with approximately 12 percent of the total population. This study excludes *aborigines* from the analysis because they constitute less than one percent of the total population in Taiwan.

<sup>7</sup> Because there are two major political parties with ASVs involved in the analysis (i.e., the KMT and the DPP), the data structure of this study consists of two rows per case (i.e., per respondent), with each row corresponding to a party's candidate. The dependent variable, *voter's district vote*, is coded as a dummy variable with 1 to indicate the chosen candidate of either a KMT candidate (Ma) or a DPP candidate (Tsai), and 0 otherwise. Thus, each row of *voter's district vote* may assume either 1 or 0, depending on whom the respondent claimed she/he voted for. The DPP was set as the reference category while the logit analysis was conducted.

**Table 3**  
Straight- and split-ticket voting in Taiwan's 2012 legislative election.

| District votes | Presidential votes                              |                                     |                                   |
|----------------|-------------------------------------------------|-------------------------------------|-----------------------------------|
|                | Ma (KMT)                                        | Tsai (DPP)                          | Soong (PPF)                       |
|                | KMT 664 (51.6%)<br>DPP 77 (6.0%)<br>PPF 7 (.5%) | 85 (6.6%)<br>421 (32.7%)<br>2 (.2%) | 15 (1.2%)<br>14 (1.1%)<br>1 (.1%) |

Note: Frequencies on top and total percentages in parentheses. Data Source: TEDS 2012.

### 5.3. Candidate-specific independent variables

As reasoned above, the analysis of coattails must also consider candidate characteristics because citizens' voting calculus is also conditioned by the attributes of vote choices. In particular, respondents' projection of their favorable evaluation of incumbent president Ma to his legislative running mates needs to be included. Indeed, coattails presume a favorable evaluation of a presidential contender and such assessments are carried over to individuals' voting decisions in the legislative election. The variable – *projected evaluation of legislative candidates* – is thus created by combining respondents' assessments of the two presidential contenders, which is based on an 11-point scale, with a 10 as “most favorable” and a 0 as “least favorable.”

In addition, variables measuring candidates' other attributes are also included, and they are: a candidate's incumbent status, ethnicity, education level, gender and age. Due to Taiwan's MMM electoral institution of the legislative body, an incumbent legislator may seek for re-election from the district she/he served, while an incumbent elected through the PR tier may also bid for re-election as a district candidate. While the former enjoys considerable incumbent advantages, the latter may at least gain name recognition due to the service in the LY. Two dummy variables are created to assess these two different types of incumbency: *district incumbent* and *PR incumbent*. They are coded 1 if a respondent's vote choices are incumbents and 0 otherwise. Following the above coding scheme, three dummy variables, *Hakka*, *mainlander* and *aborigine*, were created to represent the candidates' ethnicities, with *Min-nan* as the baseline group. Similarly, *female* candidate is coded 1 and 0 otherwise. Candidates with a *college degree* (and above) are coded 1 while candidates' *age* is a continuous variable measured by the number of years since birth.

Given that the above design encompasses both voter- and candidate-level characteristics, it requires a model that can analyze voters' characteristics as well as attributes of the choices available to voters. The more traditional logit model includes only CSVs as explanatory variables, while the conditional logit model (McFadden, 1973) uses only ASVs. In this study, both kinds of regressors are of interest. Therefore, we adopt a hybrid model of the traditional logit and conditional logit models (Alvarez and Nagler, 1998; Cameron and Trivedi, 2010; Long, 1997; Long and Freese, 2006; Train, 2009). The hybrid model allows the examination of coattails based on voters' characteristics, i.e., whether those who voted for Ma in the 2012 presidential election were more likely

to support Ma's legislative running mates. The model also permits the analysis of the effects of voters' positive projection of presidential contenders on legislative candidates, i.e., if those who favor Ma were more likely to cast a straight ticket. Specifically, we assume that voter  $i$  chooses candidate  $j$  ( $j = 1, 2$ ) to maximize her utility  $U_{ij}$ , which is a function of the voter-specific characteristics  $x_i$  and candidate-specific attributes  $z_{ij}$ .

$$U_{ij} = \alpha_j + \mathbf{x}_i \beta_j + \mathbf{z}_{ij} \gamma + \varepsilon_{ij}$$

The error term  $\varepsilon_{ij}$  is an independent and identically distributed (iid) extreme value (McFadden, 1973). This assumption implies a standard hybrid logit model for the probability that voter  $i$  in district  $k$  chooses candidate  $j$  (Winkelmann and Boes, 2009: 158)

$$\Pr(y_{ij} = j | \mathbf{x}_i, \mathbf{z}_{ij}) = \frac{\exp(\alpha_j + \mathbf{x}_i \beta_j + \mathbf{z}_{ij} \gamma)}{\sum_j \exp(\alpha_j + \mathbf{x}_i \beta_j + \mathbf{z}_{ij} \gamma)}, \quad \text{where } j = \begin{cases} 1 & \text{for KMT} \\ 2 & \text{for DPP} \end{cases} \quad (1)$$

We treat the DPP as the reference category and thus set  $\beta_2 = 0$ .

Since voters are nested in legislative districts, it is appropriate to model potential cluster effects of the 44 districts included in the TEDS 2012 sample data. Let there be  $i = 1, \dots, n_j$  level-1 voters nested in  $k = 1, \dots, K$  level-2 districts. A random effect logit model is generated by allowing the alternative-specific intercept to vary across districts with  $\alpha_j \sim N(0, \sigma_\alpha^2)$  (see Hedeker, 2008: 239). This two-level logit model is sometimes referred to as a type of hierarchical generalized linear model (HGLM) (Raudenbush and Bryk, 2002) or generalized linear mixed model (GLMM) (Agresti, 2013; McCulloch et al., 2008; Rabe-Hesketh and Skrondal, 2012). It is also an example of a mixed logit model (Glasgow, 2001; Hensher and Greene, 2001; Revelt and Train, 1998; Train, 2009) because it is a hybrid logit with both fixed effects  $\beta_j$  and  $\gamma$  as well as a random effect  $\alpha_j$ . This random component can also be expressed in standardized form  $\alpha_j = \sigma_\alpha \eta_{jk}$ , where  $\eta_{jk}$  is an iid standard Normal. The random utility now becomes,

$$U_{ijk} = \mathbf{x}_i \beta_j + \mathbf{z}_{ij} \gamma + \sigma_\alpha \eta_{jk} + \varepsilon_{ijk}$$

The model is a form of mixed logit with “mixing” over the Normal error component  $\alpha_j$ , whose standard deviation  $\sigma_\alpha$  is to be estimated. The conditional choice probability given the random effect  $\alpha_j$  is,

$$\Pr(y_{ijk} = j | \alpha_j, \mathbf{x}_i, \mathbf{z}_{ij}) = \frac{\exp(\alpha_j + \mathbf{x}_i \beta_j + \mathbf{z}_{ij} \gamma)}{\sum_j \exp(\alpha_j + \mathbf{x}_i \beta_j + \mathbf{z}_{ij} \gamma)} \quad \text{where } \alpha_j \sim N(0, \sigma_\alpha^2). \quad (2)$$

The relationship between standard hybrid logit in equation (1) and mixed logit in equation (2) is close, albeit not equivalent due to nonlinearity of the logit model.

**Table 4**

Hybrid logit and mixed logit results of presidential coattails.

|                                                | Single-level             |                 | Two-level                    |                 |
|------------------------------------------------|--------------------------|-----------------|------------------------------|-----------------|
|                                                | Hybrid logit             |                 | Random intercept mixed logit |                 |
|                                                | Coef. (robust s.e.)      | % ch. (OR)      | Coef. (s.e.)                 | % ch. (OR)      |
| Fixed-coefficient voter-specific variables     |                          |                 |                              |                 |
| Presidential vote for Ma                       | 1.430*** (.312)          | 317.768 (4.178) | 1.563*** (.363)              | 377.136 (4.771) |
| Political knowledge                            | -.034 (.117)             | -3.376 (.966)   | -.059 (.136)                 | -5.742 (.943)   |
| Support for the 1992 Consensus                 | -.072 (.310)             | -6.954 (.931)   | .034 (.303)                  | 3.466 (1.035)   |
| College degree (and above)                     | -.011 (.251)             | -1.106 (.989)   | -.133 (.277)                 | -12.476 (.875)  |
| Pan-Blue affiliation                           | .961** (.309)            | 161.355 (2.614) | .955** (.329)                | 159.888 (2.599) |
| Pan-Green affiliation                          | -.942** (.309)           | -61.027 (.390)  | -.942** (.317)               | -61.002 (.390)  |
| Chinese identity                               | .845 (.758)              | 132.906 (2.329) | .797 (.757)                  | 121.823 (2.218) |
| Dual identity                                  | .267 (.259)              | 30.666 (1.307)  | .238 (.262)                  | 26.829 (1.268)  |
| Hakka                                          | -.188 (.392)             | -17.169 (.828)  | -.379 (.376)                 | -31.543 (.685)  |
| Mainlander                                     | -.111 (.395)             | -10.482 (.895)  | -.255 (.407)                 | -22.511 (.775)  |
| Female                                         | -.0190 (.210)            | -1.878 (.981)   | -.063 (.230)                 | -6.112 (.939)   |
| Age                                            | .016** (.006)            | 1.595 (1.016)   | .012 (.009)                  | 1.164 (1.012)   |
| Fixed-coefficient candidate-specific variables |                          |                 |                              |                 |
| Projected evaluation of legislative candidates | .204*** (.041)           | 22.616 (1.226)  | .223*** (.046)               | 24.922 (1.249)  |
| District incumbent                             | .490 <sup>†</sup> (.298) | 63.295 (1.633)  | .456** (.245)                | 57.708 (1.577)  |
| PR incumbent                                   | -.612 (.564)             | -45.786 (.542)  | -.738 (.495)                 | -52.187 (.478)  |
| Hakka                                          | -.665 (.796)             | -48.567 (.514)  | -1.026 (.691)                | -64.156 (.358)  |
| Mainlander                                     | -.301 (.368)             | -25.978 (.740)  | -.363 (.479)                 | -30.439 (.696)  |
| Aborigine                                      | -.810* (.419)            | -55.503 (.445)  | -1.027 (.970)                | -64.194 (.358)  |
| College degree (and above)                     | 1.143* (.520)            | 213.537 (3.135) | 1.032 (.629)                 | 180.59 (2.806)  |
| Female                                         | .249 (.318)              | 28.282 (1.283)  | .299 (.349)                  | 34.814 (1.348)  |
| Age                                            | -.007 (.019)             | -.682 (.993)    | -.005 (.019)                 | -.469 (.995)    |
| Fixed intercept                                | -1.206** (.460)          |                 | -.912 (.606)                 |                 |
| Random intercept                               |                          |                 | .673*** (.168)               |                 |
| Log likelihood                                 | -304.621                 |                 | -299.370                     |                 |

Notes: Coef. = regression coefficient; robust s.e. = robust standard error; OR = odds ratio; % ch. = percentage change in odds; <sup>†</sup> $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ , 1-tailed test; number of cases = 982; pseudo- $R^2 = .553$  for hybrid logit model.

Whereas the former is for the marginal or population-averaged probability, conditioning only on CSVs and ASVs, the latter is for cluster-specific or conditional probability, given both CSVs and ASVs as well as the random effect (Agresti, 2013: 495–497; Rabe-Hesketh and Skrondal, 2012: 529–532). We estimated both standard hybrid logit and mixed logit models and presented the results in Table 4 to illustrate their similarities.<sup>10</sup> Because our primary interest focuses on marginal effects and population-averaged probabilities nationwide across districts, the following discussion will be mainly based on the hybrid logit model estimates appearing on the left column of Table 4 unless indicated otherwise.

## 6. The analysis

As Table 4 shows, the statistical results generated by the hybrid logit and mixed logit models are very similar, which indicate that the key conclusions of this study are robust. The findings confirm the coattail effects in Taiwan's 2012 elections, as those who voted for incumbent Ma in the presidential race tended to support the ruling KMT candidates in the legislative election. The odds of those who supported Ma to cast a straight ticket were about 4 times as

high as those who did not vote for Ma (the odds ratios are 4.178 and 4.771 for the hybrid logit and mixed logit models, respectively). The coattail effects are further demonstrated by the statistically significant projected candidate evaluations with an odds ratio of about 1.2 in the two models. Fig. 2 displays this positive relationship between voters' evaluation of two major parties' presidential candidates, Ma and Tsai, and their average predicted probabilities of voting for the KMT and DPP's district candidates. That is, the more favorable evaluation of a presidential contender a voter has, the more likely he/she will project a positive appraisal onto the district candidate of the same party label and vote for that candidate. Contrary to our expectation, political knowledge plays no part in presidential coattails and thus all voters are susceptible to the influences of presidential candidates when they cast their votes in the legislative election. Consistent with the empirical findings in the American context, presidential coattails played an influential role in Taiwan's 2012 legislative election, which helped presidential contenders' legislative running mates in their election bids.

Not surprisingly, voters' party identification continued to exert strong influences on their voting decisions. Those who identified with pan-Blue political parties are about 2.6 times more likely in odds to vote for KMT legislative candidates, whereas those identified with the pan-Green camp were equally unlikely to support KMT contenders. This suggests that party identification provides a clear synopsis of the profound political cleavage in the Taiwanese society.

<sup>10</sup> We thank an anonymous reviewer's suggestion of employing the mixed logit model. The similar outcomes of the hybrid logit and mixed logit models show that the findings are rather robust.



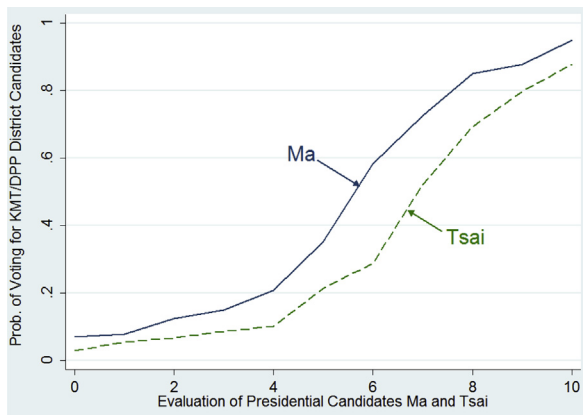


Fig. 2. Relationship between the evaluation of presidential contenders and probabilities of voting for district candidates of the same party label.

Older voters were also more likely to support KMT candidates. Interestingly, despite all the debate about the 1992 consensus in the 2012 elections, it played no part in the Taiwanese citizens' voting calculus of the legislative election. The fact that none of the coefficients associated with ethnicity and gender are statistically significant suggests that Taiwanese citizens have transcended the ascriptive criteria.

Regarding other candidate-specific variables, district incumbency was statistically significant in the mixed logit model but its significance level was marginal in the hybrid logit analysis ( $p < .10$ ). This shows that incumbents running from their original districts enjoyed *some* advantages and voters were 1.6 times as likely to support them in Taiwan's 2012 legislative election. After all, these incumbents have better name recognition, more financial resources, established campaign organizations and usually come with strong support from their affiliated political parties. That said, incumbents who were originally elected through parties' PR list and then changed tracks by running in the SMD tier did not have more advantages than challengers, as the associated negative coefficient indicates. By design, legislators elected from the PR list in a nation-wide pool do not represent any specific district. The lack of such well-defined boundaries apparently places PR incumbents on a parity of electoral advantages with challengers. Meanwhile, candidates who are aborigines have electoral disadvantages but those with a college or a graduate degree are three times as likely in odds to receive voters' attention and support. Like many societies influenced by Confucianism, education is a seal of approval in many voters' minds. The fact that candidates' gender and age have no impact on their prospects of electoral success provides an additional

Table 5  
Marginal change in predicted probabilities of coattail effects incumbents vs. non-incumbents.

|                                                | Incumbents | Non-incumbents | Differences |
|------------------------------------------------|------------|----------------|-------------|
| Presidential vote for Ma                       | .277       | .343           | -.066       |
| Projected evaluation of legislative candidates | .038       | .051           | -.013       |

Table 6

Marginal change in predicted probabilities of coattail effects Pan-Blue vs. Pan-Green party identifications.

|                                                | Pan-Blue | Pan-Green | Differences |
|------------------------------------------------|----------|-----------|-------------|
| Presidential vote for Ma                       | .219     | .329      | -.110       |
| Projected evaluation of legislative candidates | .029     | .050      | -.021       |

piece of evidence that Taiwanese citizens are increasingly more mature in their democratic practices.

Although incumbents running from their original districts did enjoy some electoral advantages, does incumbency mediate presidential coattails to the extent that "mutes the impact of the presidential election" (Mattei and Glasgow, 2005: 637)? Table 5 contrasts the marginal changes in predicted probabilities of coattail effects between incumbents and non-incumbents. Contrary to the findings in the context of the United States, a candidate's incumbency status only plays a small part in mediating presidential coattails. The differences in coattails for incumbents and non-incumbents are very small with a maximum of 6.6% in predicted probabilities. Similarly, given that party identification signifies the deep political cleavage in the Taiwanese society, one may suspect that respondents' partisan affiliations mediate coattail effects. Table 6 shows that presidential coattails exerted more effects on pan-Green voters than on pan-Blue respondents. In particular, pan-Green voters who voted for Ma were 11% higher in probabilities to cast a straight ticket in supporting a KMT district candidate in the legislative election. This shows that presidential coattails in Taiwan's 2012 elections took the form of conversion. That is, a pan-Green voter who would otherwise vote for a DPP legislative candidate switched his/her vote to a KMT contender due to the attractiveness of the incumbent President Ma. These findings have important implications to the president as a party leader after the election as well as to the operation of Taiwan's political system.

## 7. Conclusions

The conventional wisdom based on the experiences of the United States is that presidential coattails exert powerful influences on citizens' vote choices in legislative elections. Such effects, however, vary according to voters' evaluations of candidates and candidates' incumbency status. Treating the above findings as hypotheses, this study employs the hybrid logit and the mixed logit models to analyze data collected in Taiwan at both respondent and candidate levels. With some caveats, the generalizations from American experiences are largely applicable to the non-Western democracies in East Asia like Taiwan. As social scientists are working to identify objective and cross-national generalizations, the findings of the current research provides another example of such efforts.

Contrary to the American experiences, the mediating role of incumbency in coattail effects is rather small in the Taiwanese case. Even though incumbents enjoy some advantages than challengers, their prospects of being elected

are substantially higher under presidential coattails. In addition, coattail effects in Taiwan took the form of conversion, in which a voter changed his/her mind due to the attractiveness of presidential candidates. This means that the president has an important source of influence in the LY because a substantial number of legislators are in the president's debt. If using this influence properly, the president has great advantages to implement his/her agenda with strong supports from the legislature.

Furthermore, the linkage of presidential and legislative electoral politics can also help the operation of Taiwan's democratic institutions. Indeed, the island country's semi-presidential system has frequently been characterized as dysfunctional after seven constitutional amendments during the past two decades. The increasingly intensified partisanship along with deepening political cleavage in the society has made political gridlocks an institutionalized feature of the system. The president, as the head of the government and the leader of the ruling party, needs all the means available to him/her in order to realize campaign promises. Coattail effects effectively bind the political fates of the president with his/her legislative running mates. As members of the LY are obliged to the president for their past and/or future electoral successes, they are more likely to lend support for the president's agenda. Coattails may serve as an agent of promoting leadership and facilitate the operation of an otherwise dysfunctional political system.

Empirical research has long recognized the effects of candidate characteristics on voting behaviors. None of the previous studies on presidential coattails has systematically analyzed the attributes of choices from the voter's view. Employing both hybrid logit and mixed logit models, this study has successfully demonstrated that presidential coattails are affected by determinants at both voter- and candidate-levels. While the findings from both models show the robustness of the conclusions, their methodological implications go beyond the scope of the current study. As empirical analyses of voting behavior tend to focus on the characteristics of individual voters, future research also needs to consider the attributes of choices available to them.

Finally, unlike previous studies conducted in the American context where multi-year data were utilized, findings of the current study are based on one national election return. The level of generalization of the current study is arguably limited. Such limitation is mainly because Taiwan's 2012 elections was the only one where the presidential and legislative races were held concurrently on the island. Nevertheless, Taiwan's 2012 elections provide a unique opportunity to examine presidential coattails outside of the American setting. As the findings offer important theoretical, methodological and policy insights, this research represents an initial effort of examining Taiwan's electoral politics that have cross-national implications.

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