Exit polling for Korea’s election and key factors for improving the accuracy of forecasts

November, 2022

Chun Seok Kim

Hankook Research
2022 Hankook Research

Hankook Research is the largest (based on total revenue and number of employees) public opinion research firm in Korea.

<table>
<thead>
<tr>
<th>Foundation</th>
<th>Organization</th>
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</table>
| In 1978    | Client Service  
Marketing Research Division, Social Survey and Opinion Research Division, Syndicated Marketing Research Division, Market Insight Division, CSM Research Division, Innovation Research Division, Healthcare Research Division & International Research Team |

<table>
<thead>
<tr>
<th>Business Area</th>
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<tbody>
<tr>
<td>Market Research &amp; Opinion Polls, Consulting &amp; Publishing</td>
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<table>
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<tr>
<th>Board Members</th>
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<tbody>
<tr>
<td>Ick Sang Roh (Chairman)</td>
</tr>
<tr>
<td>Jae Sun Jung(CEO)</td>
</tr>
<tr>
<td>Chun Sook Kim, Ki Ju Kim, Jung Ho Shin, Jin Man Nam</td>
</tr>
</tbody>
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<tr>
<th>Research Projects</th>
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<tbody>
<tr>
<td>31,505 (since 1978)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Address</th>
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<tbody>
<tr>
<td>H-Tower, 179 Bongeunsaro, Gangnam-gu, Seoul, Korea</td>
</tr>
<tr>
<td>Busan Branch</td>
</tr>
<tr>
<td>Gwangju Branch</td>
</tr>
<tr>
<td>Daejeon Branch</td>
</tr>
<tr>
<td>Daegu Branch</td>
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<tr>
<td>Overseas Branch</td>
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</tbody>
</table>

70 countries
Exit polling for Korea’s election and key factors for improving the accuracy of forecasts

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1. The distinct eras of exit polling in Korea and their defining characteristics

**Defining Characteristics of Exit Polls in Korea**

The singular goal of exit polling is to predict the winner. Exit poll data is extremely accurate, is considered highly credible, and holds great social influence.

- **01** A clear, singular goal
  - To predict the winner of an election
  - 1 presidential election, 253 National Assembly elections, and 34 local elections (17 local government elections, 17 superintendent elections)

- **02** Covers ALL election districts nationwide
  - Having competed with other methods such as telephone surveys in the past, exit polls have been conducted during ALL elections since the 2012 National Assembly elections

- **03** Proves the superiority of exit polls as a method for predicting the results of an election
  - A matter of national interest

- **04** Used by the 3 major broadcast companies during coverage of elections
1. The distinct eras of exit polling in Korea and their defining characteristics

**The Distinct Eras of Exit Polling in Korea**

Exit polling can be divided into 2 eras: before and after the KEP. And the era before the KEP can be further divided into 2 distinct eras.

**1995 ~ 1998**

- The use of telephone surveys to predict results
  - Regulations made it impossible to conduct exit polls and was the reason for a rather unsystematic approach to predictive surveys

**2000 ~ 2009**

- Introduction and expansion in the use of exit polls
  - The country’s first exit polls were conducted in 1999 during parliamentary by-elections
  - Bellwether polling station sampling was the most used sampling framework for the designation of polling locations

**2010 ~ present**

- The era of the KEP (Korea Election Pool)
  - The KEP was launched in 2010
  - Exit polls were conducted across all election districts
  - Employed [longitudinal systematic sampling after stratification] as a sampling framework for the designation of polling locations
1. The distinct eras of exit polling in Korea and their defining characteristics

**A Turning Point for Exit Polling in Korea — the KEP**

**KEP’s Operating System**
- Multiple Research companies
- Advisory group

**Systematization**
Collaboration and division of labor between broadcast companies, research companies, and advisors

**Stability**
Minimizing unnecessary competition makes it easier to secure funding

**Sustainability**
Accumulation of experience and continued improvement

**For Reference: predictive surveys in foreign countries**

- **USA**
  - In 1993, ABC, CBS, NBC, CNN, FOX, and the AP launched the VNS (Voter News Service)
  - Transitioned to the NES (National Election Pool) in 2004
  - There are instances of exit polls being inaccurate. Due to time differences within the country, media companies actively conduct pre-election prediction polls on their own

- **England**
  - The BBC, in conjunction with ITV, conducts exit polls
  - Because seats in the National Assembly are distributed according to the % of votes received by the party, the Uniform National Swing (UNS) method is used to predict the # of seats according to the % of votes received by each party and changes in party support levels.

- **France**
- **Spain**
- **Indonesia**
  - These countries use a quick estimation of voting results to make a prediction. They base their predictions on snap counts of a small sample of votes (closer to monitoring).
2. Results of election–time exit polls in Korea

## Results of exit polls in Korea (1)

Not only is the predictive error small, but it continues to decline.

### Improvement in predicting winners of elections

1. **[Table 1] Error in predicting the winner of Presidential elections**

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2007</th>
<th>2012</th>
<th>2017</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td># of electoral districts that were exit polled</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Error in predicting the winner (%)</td>
<td>0.2</td>
<td>1.6</td>
<td>1.5</td>
<td>0.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

2. **[Table 2] Error in predicting the winner of National Assembly elections**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of electoral districts that were exit polled</td>
<td>75</td>
<td>115</td>
<td>87</td>
<td>246</td>
<td>253</td>
<td>253</td>
</tr>
<tr>
<td>Error in predicting the winner (%)</td>
<td>2.5</td>
<td>2.7</td>
<td>1.9</td>
<td>1.8</td>
<td>1.7</td>
<td>1.4</td>
</tr>
</tbody>
</table>

3. **[Table 3] Error in predicting the winner of Local elections**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td># of electoral districts that were exit polled</td>
<td>6</td>
<td>6</td>
<td>32</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Error in predicting the winner (%)</td>
<td>1.9</td>
<td>2.1</td>
<td>1.8</td>
<td>1.4</td>
<td>1.9</td>
<td>1.1</td>
</tr>
</tbody>
</table>

*Source: reconstructed from election coverage press releases and results from the National Election Commission’s official count*
2. Results of election-time exit polls in Korea

**Results of exit polls in Korea (1)**

Not only are accuracy levels high, but they continue to increase.

---

### Improving accuracy levels when predicting winners of elections

#### Table 4: Accuracy when predicting the winners of Presidential elections

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2007</th>
<th>2012</th>
<th>2017</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td># of electoral districts that were exit polled</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td># of exit polls that provided inaccurate predictions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hit Rate (%)</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

#### Table 5: Accuracy when predicting winners of National Assembly elections

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<td>75</td>
<td>115</td>
<td>87</td>
<td>246</td>
<td>253</td>
<td>253</td>
</tr>
<tr>
<td># of exit polls that provided bad predictions</td>
<td>11</td>
<td>19</td>
<td>12</td>
<td>17</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Hit Rate (%)</td>
<td>85.3</td>
<td>83.5</td>
<td>86.2</td>
<td>93.1</td>
<td>93.3</td>
<td>94.5</td>
</tr>
</tbody>
</table>

#### Table 6: Accuracy when predicting winners of Local elections

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of electoral districts that were exit polled</td>
<td>6</td>
<td>6</td>
<td>32</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td># of exit polls that provided bad predictions</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hit Rate (%)</td>
<td>100</td>
<td>83.3</td>
<td>96.9</td>
<td>97.1</td>
<td>97.1</td>
<td>97.1</td>
</tr>
</tbody>
</table>

*source: reconstructed from election coverage press releases and results from the National Election Commission’s official count*
2. Results of exit polls in Korea

Results of exit polls in Korea (2)

After the establishment of the KEP, a probabilistic sampling method was instituted. And as a result, the credibility of exit polls and public opinion polls increased dramatically.

3. Improvements in the method of designating exit polling locations

- used non-probabilistic sampling methods (such as bellwether polling stations sampling)
- we currently use a probabilistic sampling method known as [longitudinal systematic sampling from ordered polling stations after stratification]

4. Increased credibility of exit polls and election time public opinion polls

- Before the KEP was established (before 2010)
  - there existed a lot of controversy over the accuracy of exit polls and public opinion polls during elections

- After the KEP was established (2010)
  - as the accuracy of exit polls was proven to the public over and over, distrust in pre-election public opinion polls conducted via telephone surveys were dismissed. These polls are now viewed as highly credible.
3. A review of the accuracy of exit polls conducted in Korea

A Review of Total Survey Error (1)

TSE (Total Survey Error) refers to the accumulation of all errors that may arise in the design, collection, processing, and analysis of survey data. TSE is the difference between a population parameter and the estimate of that parameter based on the sample survey or census. (Smith, 2011)

[Image 1] The Various Components of Total Survey Error

- **Sampling Error**
  - number of samples / sampling method

- **Nonresponse Error**
  - Respondent refuses to respond / failure to make contact / impossible to investigate

- **Coverage Error**
  - not included / misunderstood / duplicate responses / misclassification

- **Measurement Error**
  - Interviewer / Respondent / questionnaire / data collection method

Non-observation Error

Observation Error

Reference: Groves (1999), Kim (2014)
3. A review of the accuracy of exit polls conducted in Korea

### A Review of Total Survey Error (2)

Total Survey Error (TSE) is gradually decreasing and stabilizing.

<table>
<thead>
<tr>
<th>[Table 7] Exit Polling Total Survey Error</th>
<th>[Table 7–1] TSE for presidential elections</th>
<th>[Table 7–2] TSE for national assembly elections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.15</td>
<td>4.97</td>
</tr>
</tbody>
</table>

- TSE is the absolute value of polling place extraction error + the absolute value of fieldwork error (Kim & Kwak, 2010)
- Local elections have been excluded from this analysis because the NEC does not count votes at each individual voting location and, therefore, error cannot be calculated
3. A review of the accuracy of exit polls conducted in Korea

**A Review of Total Survey Error (2)**

Fieldwork error is more than 3 times greater than polling place extraction error.

<table>
<thead>
<tr>
<th>[Table 8] Polling place extraction error</th>
<th>[Table 8–1] Polling place extraction error for presidential elections</th>
<th>[Table 8–2] Polling place extraction error for National Assembly elections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polling place extraction error (1st 2nd place error sum, %p)</td>
<td>0.9</td>
<td>0.18</td>
</tr>
</tbody>
</table>

* Polling place extraction error is the sum of the difference between actual results from the entire voting population and actual results for each polling stations sampled.

<table>
<thead>
<tr>
<th>[Table 9] Fieldwork error</th>
<th>[Table 9–1] Fieldwork error for presidential elections</th>
<th>[Table 9–2] Fieldwork error for National Assembly elections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fieldwork error (1st 2nd place error sum, %p)</td>
<td>5.25</td>
<td>4.79</td>
</tr>
</tbody>
</table>

* Fieldwork error is the sum of the difference between actual results and the predicted results for each electoral districts.
3. A review of the accuracy of exit polls conducted in Korea

**A Review of Total Survey Error (3)**

The key reason that error at the polling place extraction level is low and continue to diminish is the implementation of improved polling place extraction methods.

**Representative electoral district extraction method: bellwether polling station sampling**

**Deployed a probabilistic sampling method known as multi–stage stratified cluster sampling (probability proportionate to size)**

**Ultimately settled on a longitudinal systematic sampling from ordered polling stations**

- After sorting polling places according to results from previous elections, a target number of polling places are systematically extracted.
- The target number of polling places is determined by running simulations and minimizing error to the furthest extent possible within a given budget.
3. A review of the accuracy of exit polls conducted in Korea

A Review of Total Survey Error (4)

Non-responsiveness is a topic that must be continuously addressed

[Chart 1] Exit Poll Non-response Rates

- 2018 local elections: 21.7%
- 2020 national assembly elections: 24.6%
- 2022 presidential election: 18.3%

(unit: %)
3. A review of the accuracy of exit polls conducted in Korea

A Review of Total Survey Error (5-1)

All polling locations are surveyed in advance to ensure that we are familiar with the logistical details of each location. Substitute locations are found for those that are deemed unsuitable for conducting an exit poll.

An example of a pre-inspection of a polling station

An example of team members discussing whether a certain polling location needs to be replaced (via KakaoTalk)
3. A review of the accuracy of exit polls conducted in Korea

**A Review of Total Survey Error (5–2)**

We have developed a comprehensive training program for our interviewers. This reduces fieldwork error. We are also fully prepared to handle special situations such as the COVID–19 pandemic.

**Staff Members stationed at each polling location**

- Team Leader
- Supervisor
- Counter
- Interviewer
- Interviewer

**Interviewers Training Material**

- **Masks are worn during the entire time an exit poll is being conducted**
  - The lady that is walking out right now. She has long hair and is wearing glasses. She has a handbag slung off her left shoulder...
  - In constant communication with counter personnel to ensure that the proper respondents are targeted
  - If the respondent is NOT an actual voter, the pollster simply says “thank you” and walks away (does NOT poll this individual)
  - Instead of polling the next person (the 6th individual), the pollster returns to their standby position
  - We are conducting exit polls on behalf of the 3 major broadcast companies – KBS, MBC, and SBS. Can you spare a moment? It will take less than 1 minute of your time.
  - We urge each individual to participate in the exit poll
  - We emphasize that it is a very simply survey that only takes 1 minute to complete

**Hello. We are conducting an exit poll. Did you just leave the voting booth?**
3. A review of the accuracy of exit polls conducted in Korea

**A Review of Total Survey Error (5–3)**

We observe that the closer we abide by the K interval, the smaller fieldwork error is. As such, we train all interviewers to respect and stick as close to the k interval as possible.

[Chart 2] K Interval Compliance and Fieldwork Error

2012 National Assembly Election exit polls
A Review of Total Survey Error (5–4)

On-site field interviewers are NOT able to see the actual responses provided by exit poll respondents.

The approach and attitude of interviewers when engaging exit poll participants
3. A review of the accuracy of exit polls conducted in Korea

An Operational Review

We now have fundamentally sound operating, data collection, and result analysis systems in place. These systems help to maintain the integrity and continuity of exit polling in Korea.

01 Operating system

- KEP

02 Data collection system

- Create standard operating procedures for the entire data collection process
- Create a systematic method for data aggregation and data transmission

03 Result analysis system

- Estimate voting results from election day voters
- Estimate voting results from non-responsive voters
- Combine these results with estimates of voting results from early voters
3. A review of the accuracy of exit polls conducted in Korea

**An institutional review**

The easing of regulations and laws had an undeniably positive effect on improving the accuracy of exit polls. However, these changes are still insufficient. More needs to change.

01 **Easing of bans on public opinion polls**

Prior to 1992, public opinion polling was prohibited. Since 2005, the results of public opinion polls are prohibited from being published during the 6 days leading up to Election Day.

02 **Easing of distance restrictions for exit polls**

In 1995, exit polls were to remain at least 500 meters away from a voting location. In 2012, this distance was further decreased to 50 meters.

03 **The use of a “virtual number” phone number extraction framework**

Through the use of telephone surveys, the accuracy of early voter predictions was greatly improved.
4. Considerations when conducting exit polls in Korea

**Tasks when conducting exit polls in Korea (1)**

The number of voters voting early is increasing. As a result, the proportion of early voters among all voters is increasing.

[Chart 3] Early voter turnout and Proportion of early voters among all voters

Data source: National Election Commission
4. Tasks when conducting exit polls in Korea

Tasks when conducting exit polls in Korea (2)

Exit polls must be conducted in such a way that reflects the reality of the current situation

01 The exit poll budget is not sufficient.
   - Certain conditions make it difficult to conduct exit polls in ALL electoral districts

02 There is less and less time to check the actual voting results.
   - Fundamental obstacles that bring into question the very reason for conducting exit polls

03 We need to know why the voters voted.

04 The detail results of exit polls must be shared with all members of society.
Conclusion

Key Takeaways from Exit Polling

- We have uncovered various methods/processes to minimize Total Survey Error
- The exit polling system has become increasingly stable and systematic – from an operational viewpoint

Future Challenges

- There is a need to revise various systems that are obstacles to improving the accuracy of exit polls
- We must face and deal with certain roadblocks that are challenging our ability to continuously conduct exit polls in the country


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Korean Broadcasters Association, 2016, 「Report on the 2016 National Assembly Election Exit Polling Results」
Korean Broadcasters Association, 2018, 「Report on the 2018 Local Elections Exit Polling Results」
Korean Broadcasters Association, 2020, 「Report on the 2020 National Assembly Election Exit Polling Results」
Korean Broadcasters Association, 2022, 「Report on the 2022 Presidential Election Exit Polling Results」


THANK YOU
감사합니다