

# Did the FIFA World Cup Help Diversify the Korean Legal Profession?\*

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## Abstract

Every year the second bar examination that serves as the last barrier to entry in the Korean legal profession is held in June. And every four years, the FIFA World Cup is held in the same month of the second bar examination. Since 2002, when South Korea co-hosted the World Cup with Japan, Korean soccer<sup>1</sup> fans—who are predominantly men—have become obsessed with World Cup matches by their national team: the ‘Red Devils.’ In this paper we explore whether the FIFA World Cup created jumps in the female/male ratio in South Korean bar exam passers and helped diversify the Korean legal profession on FIFA World Cup years. Our findings suggest that they did; between 2002 and 2010 an additional 95.0 (95% BCI: [2.88, 186.00]) women passed the examination solely because the second bar examination coincided with the same month of FIFA World Cup matches. As such, this unintended consequence of scheduling has enhanced the gender diversity of the Korean bar. Interestingly, in 2017 Korean legal training will move to an American-style post-graduate model which should mitigate this effect in the future.

Keywords: Korea, Soccer, Law, Women, Diversity

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<sup>1</sup>Since both authors are currently based in the United States, we will use the term “soccer” rather than “football.” We leave the term “football” in quoted materials unchanged.

# 1 Introduction

A presidential election dominated Korean society throughout 2002. Yet, in the middle of that year, there was a diversion: the 2002 FIFA World Cup. That summer, South Korea co-hosted the World Cup with Japan. Lee writes that: “[u]nprecedented in Korean history, millions of Koreans gathered peacefully in Korean soccer team uniforms in many urban centers, watching and cheering the games, elevating Guus Hiddink, the Dutch-born manager of the Korean team, to be an instant national hero” (Lee 2003, p. 64). Korea’s national team, affectionately known as the ‘Red Devils’ or ‘Taeguk Warriors,’ made an impressive run in the tournament. They finished first in Group D (beating Poland and Portugal and obtaining a draw with the United States), beat Italy 2-1 in the first elimination round, and beat Spain—the overwhelming favorite—5-3 on penalty kicks in the quarterfinals. Korea’s success ended with a 1-0 loss to Germany in the semi-finals.

Soccer played an important role in Korean nationalism; during the Japanese occupation, Korean teams competed against their Japanese opponents (Podoler 2008) and since gaining independence, national matches against Japan have become must-win games at all costs. However, the 2002 FIFA World Cup may enjoy singlehanded credit for soccer’s rise as the Korean national pastime. Prior to 2002, the South Korean national team had never won a single game in the FIFA World Cup. The exceptional performance and the co-hosting of the FIFA World Cup changed everything; in June 2002 “South Korea was in a state of football frenzy” (Podoler 2008, p. 7). The most dedicated fans, “with their coloured faces and red T-shirts dominated the stadiums and the streets and became a familiar image in both local and international media” (Podoler 2008, p. 7).

Are there differences in interest in the World Cup between men and women? A popular saying alleges that there are three things that South Korean women most hate to hear about from South Korean men: military service, soccer, and, the worst of all, soccer games played during military service (Noh 2011). Especially in South Korea, “[t]he history of soccer shows a happy union of masculinity and nationalism” (Kim 2011a, p. 42). During the 2002 FIFA World Cup, more women began following soccer; indeed, up to 40% of self-proclaimed ‘Red Devils’ fans at the time were women (Kim 2011a). This interest among women notwithstanding, the majority of South Korean soccer fans—especially hard-core fans who closely followed every match—are men, many of whom obsess about the team and enjoy games accompanied by significant drinking sessions, something not shared with women.

What do the ‘Red Devils’ have to do with the Korean legal profession? For years, folk wisdom in South Korea has indicated that there is a possible *causal* relationship between the FIFA World Cup schedule and the share of women who pass the South Korean bar (Hankook Ilbo 2002; Munhwa Ilbo 2005). The events of the FIFA World Cup—held every four years—coincide with the month of the second bar exam (the one that currently serves as the *de facto* final barrier to entry in the profession). The argument progresses that male test-takers are more distracted than female test-takers by World Cup matches right before the second bar exam, which is graded on a curve, and as a result, the share of female passers *increases* during FIFA World Cup years. The effect is expected to have taken place beginning in 2002 and to have persisted thereafter because of the success of the ‘Red Devils.’ The purpose of this paper is to assess this folk wisdom and to estimate the extent to which timing of this examination has served to diversify the Korean bar.

## 2 Diversity in the Korean Legal Profession

Compared with other nations, the South Korean bar is very small: there is one lawyer for every 5,178 Korean residents. For the sake of comparison, in the United States there is one lawyer for every 265 residents (Harvard Law School Program on the Legal Profession 2011). The South Korean bar is kept comparatively small by a fixed, low pass rate. In addition to being small, the South Korean legal profession is very homogenous. This “not only hampers diversification of the legal community but also facilitates unethical practice” (Kim 2011b, p. 48). Nonetheless, the number of women in the Korean bar has slowly increased in recent years: “Before 1981, at best, one woman passed the exam each year. In 1994, however, the proportion of women successfully passing the exam jumped to 10.8% and then to 17.2% in 1999, when 122 women passed. In 2000, 151 women passed the nation’s most competitive exam, representing 18.9% of all successful candidates” (Kim 2011b, pp. 49-50). The recent shift is pronounced that “many female law students have reported that they entered the legal profession because they viewed it as much more gender-neutral than any other jobs in Korea” (Kim 2011b, pp. 49-50).

To become a lawyer, judge, or prosecutor in South Korea an applicant must pass the National Bar Examination and then complete two years of training at the Judicial Research and Training Institute (JRTI). Passage of the National Bar Examination is *the* most important hurdle to becoming a lawyer in South Korea (Kim 2006). The examination consists of two parts. The first part is a multiple choice format test that covers core areas of law. The second examination—which can only be taken if the applicant passes the first—is considered more difficult and intensive. It is an essay examination covering the same material as the first, as

well as additional areas of procedural and substantive law. The pass rate of this second examination is less than 5% (Harvard Law School Program on the Legal Profession 2011) and only a fixed number of test-takers pass. One survey reports that test-takers routinely spend about eight hours a day preparing for the second test.<sup>2</sup> Any significant distraction might result in a tiny difference in test scores: the difference between passage and failure in this highly competitive test. Furthermore, a failure in the second test means that a student must pass the first test again in order to re-qualify for the second test, which typically requires another 2-3 years of the preparation.

There are many rationales for diversity, some of which are based on overcoming past discriminatory behavior. We also know that women often behave differently and can shape the attitudes of their male colleagues in a variety of professional settings, including on the bench (Boyd et al. 2010). According to Knight (2001), social institutions work better when there are diverse inputs. Culturally, the South Korean bar examination is one of possibly only a few remaining venues of upward social mobility in South Korea. Many top-level bureaucrats, politicians, high-ranking government officials, and corporate executives are drawn from the legal profession. Thus, diversity of the South Korean bar is of special importance for diversity of social elites in South Korea.

Table 1 around here

Table 1 shows that the FIFA World Cup schedule completely covers the schedule of the second bar exam. The World Cup begins just weeks before the second exam's first date,

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<sup>2</sup>The survey was conducted by the *Law Journal* (<http://news.lec.co.kr/>). A total of 751 bar exam passers in 2001 were surveyed. See URL: [http://www.realpass.co.kr/gnuboard4/bbs/board.php?bo\\_table=news&wr\\_id=69](http://www.realpass.co.kr/gnuboard4/bbs/board.php?bo_table=news&wr_id=69), Last accessed: January 17, 2012.

leaving soccer-loving test-takers to face a painful and career-threatening decision: watch the first round (including the South Korean national team’s games) just before taking the second exam, or focus on studying? Because of this scheduling anomaly—something *surely* the FIFA officials were not cognizant of—and because South Korean men are more avid soccer fans than women, we would expect that the FIFA World Cup distracts men test-takers’ attention *more* than that of women.<sup>3</sup> This is because female test-takers are less likely to watch games, less likely to bet on game results, and less likely to drink alcohol that affects the the next day’s preparation or exam-taking. We would also expect the effect to emerge starting in 2002, when national interest in soccer increased dramatically and the ‘Red Devils’ made it to the elimination tournament for the first time. The question remains as to whether this pattern exists in the data and, if so, whether this unanticipated consequence (Merton 1936) is, in fact, consequential.

### 3 Method

To ascertain the effects of FIFA World Cup scheduling on the South Korean legal profession, we developed a simple of model of bar passage. Ideally, the best measure of a gender bias is a sex odds ratio of the second exam passers, which can be defined as:

$$\text{sex odds ratio}_t = \frac{\text{female passers}_t}{\text{female test-takers}_t} \div \frac{\text{male passers}_t}{\text{male test-takers}_t} \quad (1)$$

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<sup>3</sup>We should note that we do not claim that the World Cup schedule affects *only* the sex ratio in bar exam passers. Indeed, the effects could be much broader, encompassing other regular public tests such as the College Scholastic Ability test, the Public Service Aptitude test, and the Certified Public Accountant test. What distinguishes the National Bar Examination from all the other tests is the unintended *temporal proximity* of the FIFA World Cup and the second test of the national bar exam.

However, it is difficult to obtain this measure because we do not know the sex ratio of the second exam test-takers with certainty. Those who passed the first exam may take the second exam twice: the same year and, if needed, the following year. Thus, some who passed the first exam the previous year but failed to pass the second exam will re-take the second exam the next year. We do not know the number of these re-takers and their sex ratio.

Instead, we use a sex ratio of those who pass the second exam as the dependent variable:

$$\text{sex ratio of the second exam passers}_t = \frac{\text{female passers of the second exam}_t}{\text{total passers of the second exam}_t} \quad (2)$$

If we assume the ability to concentrate on the test preparation to be randomly distributed between men and women—our implicit null hypothesis—then there is no reason to expect a sex ratio in passers to significantly differ between on and off FIFA World Cup years.

One might suspect that there is an alternative causal mechanism that affects the sex ratio of the second exam passers on FIFA World Cup years. For example, there might happen to exist other social distractions than the FIFA World Cup which might affect male test-takers more intensely than female test-takers on some FIFA World Cup years. To check for the possibility of spurious correlation, we use a sex ratio of first exam passers as a placebo. Since the first exam occurs in either January or February each year, we should not observe the type of changes in sex ratios in the first exam passers to be similar to those in the second exam passers on FIFA World Cup years. One limitation of this placebo test is the small sample size: the sex ratio of first exam passers is available only from 2002 to 2011.<sup>4</sup>

Figure 1 around here

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<sup>4</sup>The Ministry of Justice, the Republic of Korea. URL: <http://www.moj.go.kr>, Last accessed: January 17, 2012.

Figure 1 shows the time series of the sex ratio of the second exam passers between 1996 and 2011 (the solid line) and that of the first exam passers between 2002 and 2011 (the dashed line). Visual inspection shows that the difference between sex ratios between the treated unit (the second exam passers) and the control unit (the first exam passers) is clear. There is no “jump” on FIFA World Cup years in the sex ratio of first exam passers. If we exclude FIFA World Cup years (dotted vertical lines), it is clear that there is a linear upward trend in the time series of the sex ratio in second exam passers. This linear trend is consistent with Kim’s (2001) findings. A similar linear trend is also found from the sex ratios in the first exam passers. Thus, we employ this linear trend to predict counterfactual outcomes of the sex ratio. That is, what would sex ratios in bar exam passers on FIFA World Cup years be in the absence of the World Cup?

We have developed a simple linear trend model with an indicator for the treatment (Post-2002 FIFA World Cup years),

$$y_t = \alpha + \beta \text{ linear trend}_t + \gamma \text{ Post-2002 World Cup} + \epsilon_t \quad (3)$$

$$\epsilon_t \sim \mathcal{N}(0, \sigma^2) \quad (4)$$

Then, counterfactual outcomes of the sex ratio in bar exam passers on FIFA World Cup years can be computed by

$$\hat{y}_t = \alpha + \beta \text{ linear trend}_t \quad (5)$$

and the causal effect of the treatment (Post-2002 World Cup Years) on the sex ratio in bar

exam passers is captured by  $\gamma$ . We expect that  $\gamma > 0$  and will be statistically different from zero only for the second exam passers but not in the first exam passers.

Because we are performing inference with such a small dataset, and to facilitate model comparison, we adopt a Bayesian inferential strategy. For priors we use Gaussian prior distributions for the mean parameters  $(\alpha, \beta, \gamma)$  with the mean 0 and the standard deviation 10. The prior for the variance parameter is the inverse gamma distribution with the shape and scale parameters set at 0.001. We perform the sensitivity analysis for the choice of prior given the small sample size. We simulate from the posterior distribution of the model using Markov chain Monte Carlo methods implemented in `MCMCpack` (Martin et al. 2011). Then, we visualize the treatment effects by simulating draws from the posterior predictive distribution, which is defined as

$$p(y^{pred}|y) = \int p(y^{pred}|\boldsymbol{\theta})p(\boldsymbol{\theta}|y)d\boldsymbol{\theta} \quad (6)$$

where  $\boldsymbol{\theta} = \{\alpha, \beta, \gamma, \sigma^2\}$ .

## 4 Results

Table 2 summarizes the results of regression analysis and Bayesian model choice. First, the Bayesian model choice using the log marginal likelihood indicates that Model 4 using Post-2002 World Cup as a predictor is most reasonable, which makes sense given the discussion so far. The only difference between World Cup in Model 3 and Post-2002 World Cup in Model 4 is whether or not it includes 1998 as an “on” year. The results show that including 1998

reduces the model fit—look at the larger  $\sigma^2$  and the smaller log marginal likelihood in Model 3 than those of Model 4. This implies that, consistent with the change that took place in Korean soccer in 2002, the effects of the FIFA World Cup on the second bar exam passers started in 2002 and not at an earlier date. If we look at parameter estimates from Model 4, the linear trend coefficient is positive and statistically distinguishable from zero. On average, there is a 2 percentage point increase in the female share of passers in the second bar exam.

Table 2 around here

The main quantity of interest is the difference between the treatment (Model 4) and the placebo (Model 7). For an easy interpretation of the treatment effect, we draw parameter distributions of Post-2002 World Cup for the second exam (the dark dotted line) and for the first exam (the bright solid line) in Figure 2. It is clear that Post-2002 FIFA World Cups significantly increase the share of female passers in the second bar exam while not affecting the share of female passers in the first bar exam. This is strong evidence in support of the *causal* effect of post-2002 FIFA World Cup schedules on the sex ratio of second exam passers.

Figure 2 and Figure 3 around here

The next question is how the sex ratio changes over time if the underlying condition does not change dramatically. Figure 3 visualizes the treatment effects of the FIFA World Cup years on the sex ratios in second exam passers using the Bayesian prediction method. The predicted values of the sex ratio are generated through 2017, an important date we discuss in the concluding section. It is very clear that the FIFA World Cup schedules affect only the sex ratios in the second exam passers (the left panel), but not the sex ratios in the first exam

passers (the right panel). The predicted values of sex ratios in the second exam passers have jumps on the FIFA World Cup years while no jump is apparent from predicted values of sex ratios in first exam passers.

An important substantive question that we can answer from the predicted results is: how many more female lawyers were able to join the profession from 2002 to 2010 because of the FIFA World Cup? If we consider that approximately 800 new lawyers are minted by the second bar exam on each year, the three FIFA World Cups from 2002 to 2010 changed the gender of about 95.0 lawyers on average:  $3.96_{(0.12, 7.75)} \times 800 \times 3/100 = 95.04_{(2.88, 186.00)}$  with the subscripts noting the 95% Bayesian Credible Intervals (BCIs). The cumulative effect of the FIFA World Cup on the sex ratio in legal occupations in South Korea can hardly be ignored, especially given the small size of the bar.

Table 3 reports the results of the prior sensitivity analysis. The results of the sensitivity analysis show that unless we restrict the prior distributions of the mean parameters very tightly around zero, the effects of the Post-2002 FIFA World Cup on the sex ratio of the second bar exam passers range between 3 and 4. Given the small sample size ( $N = 16$ ), this is very strong evidence in favor of the existence of the positive treatment effect.

Table 3 around here

## 5 Conclusion

The success of the ‘Red Devils’ in the 2002 World Cup fundamentally changed the status of soccer in South Korea. The 2002 World Cup also *increased* the diversity of the Korean legal profession. Our analysis suggests that 95.0 (95% BCI: [2.88, 186.00]) additional females

entered legal practice due to the timing of the second bar examination. These findings are consistent with South Korean folk wisdom that some male soccer fanatics are so distracted or inebriated that they perform worse on the bar exam than if the World Cup did not take place concurrently. The ‘Red Devils’ have, thus, contributed to the diversification of the South Korean legal profession.

But this is not where the story ends. In 2009, twenty-five Korean universities adopted an American-style, post-graduate model for legal education (Harvard Law School Program on the Legal Profession 2011). Rather than using an examination to screen future lawyers, these schools will use competitive admissions for students who already have a bachelors degree. After three years of training, these students will receive a juris doctor degree, and will take a new Lawyer Admission Test, similar to a bar examination in the United States and quite different from the Korean Bar Examination. Most importantly, this exam will have a far higher passage rate; nearly every student completing the J.D. is expected to pass. This first class will graduate and sit for the Lawyer Admission Test in 2012; by 2017 *all* legal education will take place in the new style. What do we expect the consequence of this to be? The new exam will not perform the screening function of the old one, so even though it might be administered in the summer, we would expect the ‘Red Devil’ effect to persist. We would expect male test-takers to score lower, on average, in these years, but under the new system they will still likely pass. Here is another unintended consequence: by changing the barrier to entry in the Korean legal profession, soccer madness will no longer affect significant numbers of male test-takers, and may, thus, decrease the diversity of the South Korean legal profession.

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Table 1: FIFA World Cup and Second National Bar Exam Schedules

Year	Hosting Country	World Cup	Second Test	Coverage
2002	South Korea and Japan	May 31 to June 30	June 25 to June 28	100 %
2006	Germany	June 9 to July 9	June 20 to June 23	100 %
2010	South Africa	June 11 to July 11	June 23 to June 26	100 %

Table 2: Linear Regression Analysis and Bayesian Model Choice

Dependent Variable	Sex Ratios in the Second Exam				Sex Ratios in the First Exam		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	5.89* (1.75)	22.21* (3.34)	5.27* (1.61)	5.89* (1.53)	9.56* (2.96)	26.98* (2.32)	9.34 (3.32)
Trend	2.31* (0.18)		2.29* (0.16)	2.22* (0.16)	1.60* (0.25)		1.62* (0.27)
World Cup		4.95 (5.76)	3.18* (1.76)				
Post-2002 World Cup				3.96* (1.95)		0.11 (3.88)	0.08 (1.77)
$N$	16	16	16	16	10	10	10
$\sigma^2$	11.42	156.51	9.48	8.87	5.75	38.65	6.80
Log Marginal Likelihood	-56.19	-77.52	-56.03	-55.47	-36.40	-47.26	-38.48

Note: Log Marginal Likelihood is estimated by MCMC methods using `MCMCpack`. Standard deviations are reported in parentheses. \* indicates that the 95% Bayesian Credible Interval does not include zero.

Table 3: Prior Sensitivity Analysis: The dependent variable is sex ratios in second exam passers.  $\alpha, \beta, \gamma \sim \mathcal{N}(0, B_0)$  and  $\sigma^2 \sim \text{Inverse Gamma}(c_0, d_0)$

	$B_0 = 2$				$B_0 = 10$				$B_0 = 100$				$B_0 = 1000$			
	$c_0 = 0.001, d_0 = 0.001$															
	Mean	St.Dev	Lower	Upper	Mean	St.Dev	Lower	Upper	Mean	St.Dev	Lower	Upper	Mean	St.Dev	Lower	Upper
Constant	2.45	1.24	-0.07	4.80	4.89	1.45	1.83	7.60	5.89	1.53	2.87	8.93	6.02	1.55	2.97	9.11
Trend	2.58	0.15	2.30	2.89	2.33	0.16	2.03	2.66	2.22	0.16	1.89	2.55	2.20	0.17	1.87	2.53
Post-2002 World Cup	1.20	1.25	-1.29	3.60	2.98	1.71	-0.50	6.25	3.96	1.95	0.12	7.75	4.09	1.99	0.19	8.01
$\sigma^2$	13.34	6.82	5.50	30.65	9.23	4.56	4.06	20.95	8.87	4.28	3.96	19.99	8.91	4.33	3.98	20.15
	$c_0 = 1, d_0 = 1$				$c_0 = 0.1, d_0 = 0.1$				$c_0 = 0.01, d_0 = 0.01$				$c_0 = 0.001, d_0 = 0.001$			
Constant	5.91	1.43	3.07	8.74	5.89	1.52	2.86	8.91	5.89	1.53	2.87	8.92	5.89	1.53	2.87	8.93
Trend	2.22	0.15	1.91	2.52	2.22	0.16	1.90	2.54	2.22	0.16	1.89	2.55	2.22	0.16	1.89	2.55
Post-2002 World Cup	3.97	1.80	0.44	7.53	3.95	1.93	0.14	7.72	3.96	1.94	0.13	7.75	3.96	1.95	0.12	7.75
$\sigma^2$	7.70	3.40	3.68	16.36	8.75	4.25	3.93	19.60	8.86	4.27	3.96	19.94	8.87	4.28	3.96	19.99

Note: Models are estimated by MCMC methods using MCMCpack.

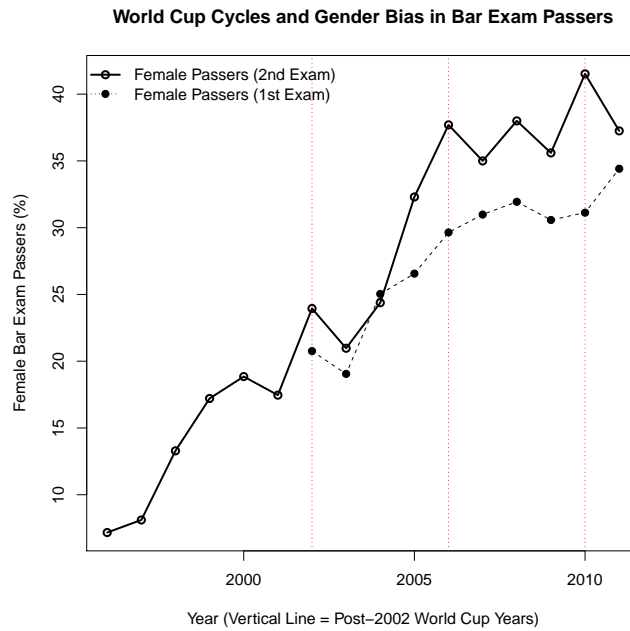


Figure 1: Percentages of female bar exam passers in South Korea. Source: Ministry of Justice, Republic of Korea. <http://www.moj.go.kr>

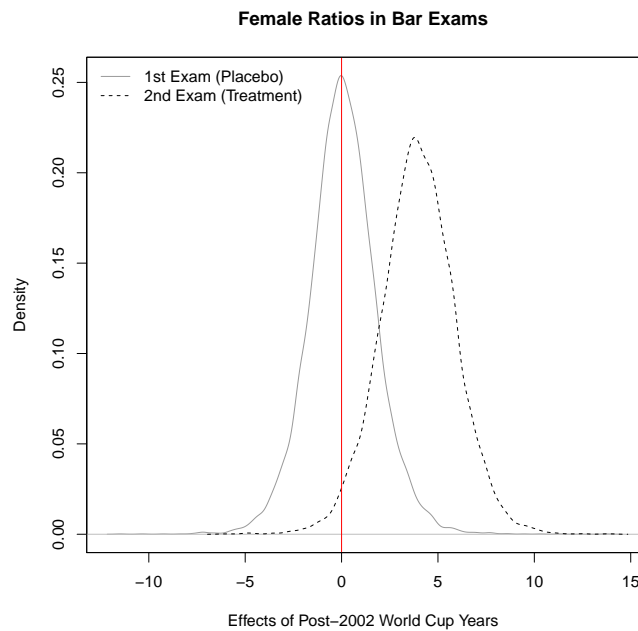


Figure 2: Effects of the FIFA World Cup Years on sex ratios of South Korean bar exam passers

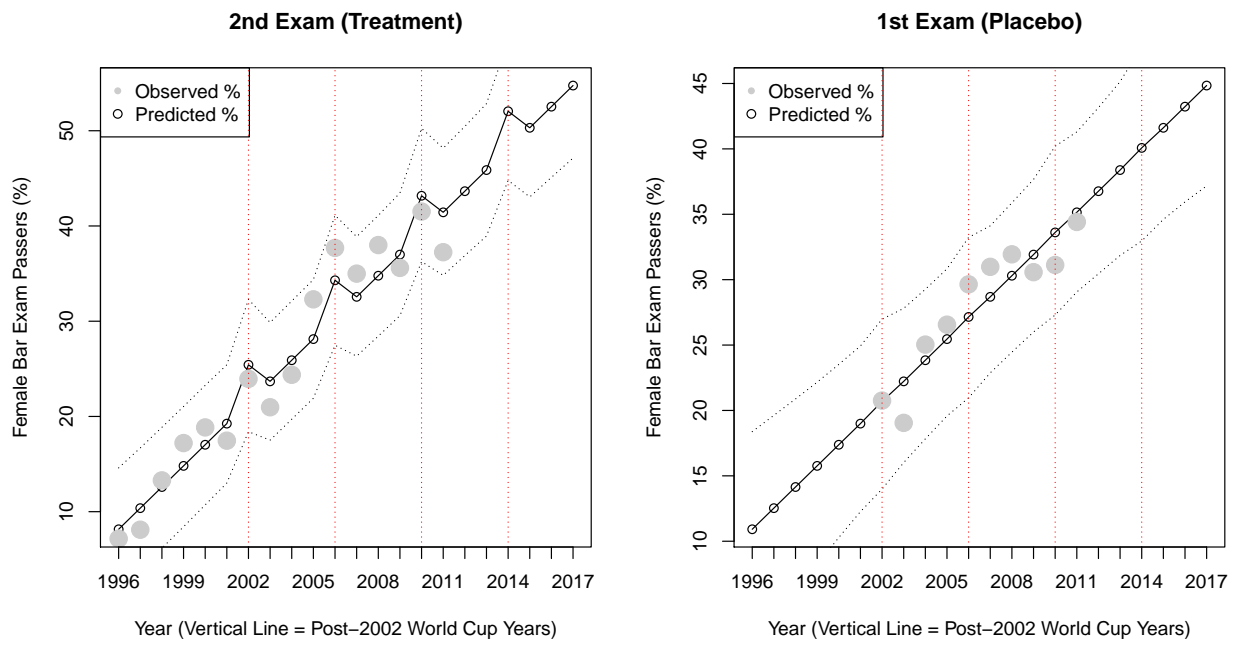


Figure 3: Actual and predicted shares of South Korean female bar exam passers