# Overview

Hi, today I'm going to present one chapter of my thesis entitled 'Electoral Reform and Fragmented Polarization.' This paper was written around two years ago. Here, I'll give a quick summary of this paper.

So, what does this paper aim to do? Basically, it examines the electoral system reform affect the relationship between legislators and political parties.

To answer this question, we use the case of Taiwan, which has undergone electoral reform in 2008, and analyzed roll call votes that covers the transition from the multimember district system to the single member district.

According to numerous studies, it has been found that the multimember district increases intra-party competition, leading to divergence among political parties. Conversely, the single member district tends to move legislator to converge on their copartisan.

Contrary to our expectations, we discovered that the process of reform actually resulted in intense intra-party conflicts, although this effect seemed to be temporary.

# Motivation 1

About our motivation of this paper.

Generally speaking, the electoral rule can influence the positions that politicians adopt. When we're talking about the theory behind parties’ competition in real world, it's important to think how electoral systems shape legislative preferences. It's a fundamental piece of the puzzle in this paper.

In prior research, particularly in the context of Japan, it has been observed that candidates tend to be divergent under the Single Non-Transferable Vote system (SNTV), whereas they tend to converge under Single-Member Districts (SMDs).

In the last few decades, we've seen some significant changes in how elections are run in East Asian democracies like South Korea, Thailand, and Taiwan. They've moved away from the SNTV to SMDs."

I think it's not just about Japan. We could learn more from looking at other countries, like Taiwan, to really test and confirm this assertion.

# Motivation 2

Apart from that, Catalinac's research for example observed a shift among the candidates in Single-Member Districts. This research comes from an in-depth analysis of textual manifestos.

In some parliaments around the world, like Japan, UK, and Germany. there's not much variation when you look at roll call votes.

However, it's not the same everywhere. In places like Taiwan, things might be different. The patterns we see in roll call votes might not line up in the same way.

# Theoretical Expectation (1)

Unlike many other voting systems, SNTV encourages intense competition among candidates from the same party. Since each voter only gets to cast one vote, and the candidate with the most votes wins, you often find candidates from the same party fight out for the same group of voters.

This can actually lead to a party breaking into smaller factions and by fostering what's often referred to as 'money politics'.

# Theoretical Expectation (2)

When we focus on the SMD, a few key aspects come to light:

Firstly, the SMD , characterized by a plurality rule and single vote per voter, has potential to reduce intra-party competition by limiting the district magnitude to one.

SMD often leads to scenarios where mainstream parties find common ground with their co-partisans.

Voters may vote strategically based on party labels, and legislators with similar ideological preferences often form alliances. legislators can leverage their party brand to secure electoral support.

# Theoretical Expectation (2)

In conclusion, the transition from the SNTV to SMDs has brought about two important effects:

It has reduced the level of political polarization between the parties. With SMDs in place, there tends to be less extreme polarization and more opportunities for moderate positions to emerge.

The shift from SNTV to SMDs has also increase greater ideological unity among legislators within the same party. By representing a single district, legislators within a party have a stronger incentive to align their ideological positions with her party and attract to a broader base of voters.

# # Case: Taiwan's Electoral Reform

# Before 2008, Taiwan used a voting system called the SNTV (Single Non-Transferable Vote) for legislative elections. Under this system, several legislators were elected from each district and each voter could only cast a single vote. So the candidates had to compete not only with candidates from other parties but also with those from their own party

# However, in 2005, Taiwan's parliament passed a constitutional amendment that changed this system to a SMD (Single Member District) system. Under the SMD system, only one legislator is elected from each district and this system was implemented starting from the legislative elections in 2008. Simply put, only the candidate with the most votes in each district could win the election.

# The switch to the SMD system are expected to make the positions of the legislators more aligned with their parties, as they no longer needed to compete with other candidates within the same party. This change likely reduced disagreements and conflicts within parties, as legislators are more inclined to follow the party line rather than seeking their own voter base.

# Research Design

Let me walk you through our research design in a nutshell.

Our main objective is to understand the shifts in ideological positions of individual legislators before and after a reform. Here's how we plan to do it:

First, we estimate the ideological positions of each legislator by analyzing their sessional roll call votes across the pre-reform and post-reform periods. This will give us a comprehensive view of their positions over time.

To achieve this, we employ 39-item response theory (IRT) ideal point model. This model takes into account the individual priors, which will be recursively updated at each session to capture any evolving trends.

Once we have the estimation, we then construct measures of inter-party and intra-party distance. In this stage, we utilize the party whip as a key indicator of party policy enforcement. This help us understand the variations in positions both between parties and within parties.

Finally, we use the regressions to empirically test our assertions.

# Legislative Roll Calls

Our data set spanning 39 legislative sessions from 1996 to 2016. The dataset covers a wide range of vote items, from 323 to 1,223. Additionally, we observe a reduction in the number of seats from 240 to 113. To handle the challenges of this extensive dataset, we employ EM-based ideal point estimation methods for our analysis.

# Ideal Point Estimation

In our analysis, we represent the average positions of each party with dots. The green dot represents the average position of the DPP members, while the blue dot represents the average position of the KMT members. The blue 'W' represents the KMT whip, while the green 'W' represents the DPP whip. Interestingly, we can observe a clear divergence during the reform process.

# Two Polarization (1)

Based on our understanding of the party whips from both parties, we can calculate the distances for interparty and intraparty analysis.

Interparty distance refers to the ideological difference between a legislator's ideal point and the whip of the opposing party. Intraparty distance measures the disparity between a legislator's ideal point and their own party whip.

# Two Polarization (2)

Then, we ran regression analysis, controlling for factors such as age, gender, education level, and party affiliation. the variables may potentially influence legislators’ positions.

# The Results 1

Based on the fitted values from the regression analysis from model (2), we can observe that the reform had a disuniting effect on both interparty and intraparty distances. Specifically, during the process of electoral reform, the distances between legislators and their party whips increased. However, in the years following the reform, we can observe a gradual convergence, indicating a trend of reduced ideological distances within and between parties.

# The Results 2

In addition to the regression analysis, we conducted a geomsootm to assess the overall trend. Interestingly, our findings indicate that the KMT was more sensitive to the reform compared to DPP. Specifically, the reform had a stronger impact on increasing the intraparty distance within the KMT. This suggests that the electoral reform had a more pronounced effect on shaping the ideological positions within the KMT members compared to DPP.

# last

Let me summarize our findings for you.

The transition from SNTV to SMDs did not immediately improve interparty conflicts. In fact, our research shows that the reform initially led to an increase in disagreements between mainstream parties, causing a short-term escalation of both intra- and inter-party conflicts.

Interestingly, we observed significant heterogeneity in the effects between KMT and DPP. The reform had a more detrimental impact on the members of the KMT compared to the DPP.

However, after six years, we noticed a gradual convergence of disagreements between the mainstream parties. Over time, the conflicts returned to their pre-reform level.

Our research contribute to electoral reform literature, providing policy implication for democratic country contemplating an electoral reform

These findings shed light on the complex dynamics of electoral reform and highlight the temporary nature of the increased conflicts following the transition. Understanding these dynamics is crucial for comprehending the long-term effects of electoral system changes on party politics.