

T.C
GALATASARAY ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI

**THE EFFECTS OF POLICY PLEDGES AND FAIRNESS PERCEPTION
ON POLITICAL DECISIONS: AN EXPERIMENTAL ANALYSIS ON
VOTING WHEN SELF INTEREST AND MORAL CONFLICT**

A MASTER'S THESIS

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JUNE, 2016

ACKNOWLEDGEMENTS

I am very grateful to Assist. Prof. Dr. Bilge Öztürk Göktuna for her continuous help, fruitful comments and many constructive discussions, which have greatly contributed to this thesis. I am grateful to my supervisor Assoc. Prof. Dr. Sezgin Polat who helped me a lot to enable me to finish this thesis with his kind support.

I also like to thank Assist. Prof. Dr. Özge Gökdemir for her productive comments and suggestions to improve this study.

I am deeply grateful to my friends Mert ERİNÇ, Ali Fuat YILMAZ and Derya ZAYİM for their constant support.

Finally, I want to thank my parents for their reliable support and their constant faith in me.

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RÉSUMÉ

Dans cette thèse, les explications théoriques sur des décisions politiques ont été testées d'une façon expérimentale. En utilisant les suppositions de théories formelles et les prédictions des modèles pertinents, un jeu a été conçu comme une simulation d'élection politique. Les données de l'expérience ont été analysées, aucune macro donnée n'a été utilisée. À part des résultats expérimentaux, aucune preuve empirique n'a été rapportée. Le but de cette expérience était d'observer des comportements individuels dans une simulation. Pour cette raison, au lieu de fournir de macro-prédictions et la preuve empirique, cette étude fournit des explications de l'approche d'économie comportementale aux stratégies individuelles. Les modèles de préférence sociale et la théorie de concurrence politique ont été examinés en utilisant un modèle expérimental inspiré par Corazzini et al. (2014).

Dans le deuxième chapitre, nous avons présenté les théories et modèles qui sont concentrés sur les préférences individuelles. Les modèles de préférence sociale ont été analysés sous deux titres principaux. Comme cette étude contient une simulation d'élections suivies des campagnes politiques sur les politiques sur la distribution de revenu, nous avons analysé les modèles de préférence sociale pour comprendre les préférences sur la distribution premièrement.

Le premier titre sous les modèles de préférence sociale contient les préférences distributives. En expliquant des modèles de préférence distributive, nous avons visé à fournir une approche compréhensible à d'autres comportements des sujets dans la réalité. En plus de leur pay-off, les individus peuvent avoir utilité des pay-offs des autres individus. Alors quand ils font face aux alternatives de distribution de revenu, ils

peuvent agir pour maximiser leur propre pay-off monétaire ou considérer les pay-offs des autres aussi.

Le deuxième titre sous les modèles de préférence sociale est la réciprocité. La répétition des jeux fournit aux individus une chance de récompenser ou punir les décideurs. Et la réciprocité, dans ce contexte, explique pourquoi les gens ont tendance à agir en une bonne/mauvaise manière à d'autres qui étaient bons/mauvais à eux. La conception de notre expérience contient un mécanisme de réélection et de cette façon, la motivation derrière la non-sélection des politiciens est définie comme la réciprocité.

Sous les modèles de préférence distributive, nous avons analysé Fehr et Schmidt (1999), Bolton et Ockenfels (2000) et Rabin (2002) principalement. En ajoutant une relation linéaire entre l'utilité et l'aversion à l'inégalité, Fehr et Schmidt (1999) a fait des prédictions de comportements individuels. Ces prédictions étaient plus cohérentes avec les résultats expérimentaux et l'intuition aussi. Leur modèle a prévu que quand ils font face aux propositions de distribution, les individus ont tendance à minimiser l'écart entre leur revenu et le revenu des autres. Un des composants de l'utilité individuelle est l'aversion à l'inégalité. Avec l'introduction de l'aversion à l'inégalité, l'individu tire une utilité négative de l'inégalité. Donc, leurs préférences peuvent viser à réduire l'inégalité pour augmenter leur propre utilité. Le modèle de Fehr et Schmidt (1999) est le modèle de préférence social le plus utilisé dans la littérature. La raison est qu'il est facile de manipuler ce modèle, prévoir des comportements individuels particulièrement sur les politiques de distribution c'est fréquemment préféré comme dans Tyran et al. (2006). Mais un inconvénient du modèle est dû à la linéarité d'aversion à l'inégalité, cette caractéristique crée des solutions en coin pour des jeux de dictateur. Et ceux-ci n'étaient pas compatibles avec les résultats expérimentaux. Bolton et Ockenfels (2000) a généralisé Fehr et Schmidt (1999). Leur modèle contient la réciprocité et la concurrence à côté de l'aversion à l'inégalité. Les prédictions du modèle ont confirmé les résultats expérimentaux. Mais pour des jeux d'ultimatum et des jeux de dictateur, ses solutions étaient invraisemblables. Rabin (2002) a combiné les effets de réciprocité, la

maximisation de protection sociale et la justice et développé un modèle psychologique sur des préférences distributives. Les prédictions du modèle ont été confirmées par les résultats expérimentaux des expériences de jeux qu'il a conduit lui-même. Les résultats et prédictions ont montré que les sujets se soucient de maximiser la protection sociale (l'efficacité) et la justice. Mais la complexité du modèle a rendu difficile de fournir des prédictions claires en réalité.

Dans le contexte des préférences réciproques, Rabin (1993) est l'étude la plus citée et utilisée fréquemment pour des prédictions (prévisions). Rabin (1993) présente des motivations psychologiques pour les préférences individuelles et procure une approche de théorie de jeux qui contient aussi des effets psychologiques. Il a intitulé son étude comme la théorie des jeux psychologiques. Son modèle contient l'altruisme comme explication de base. Il a prévu que si les autres ont été gentil/désagréable ou juste/injuste envers eux, les individus auront aussi une attitude réciproque comme réaction. Malgré l'inconvénient de son modèle de ne pas avoir considéré des préférences distributives, Rabin (1993) a fourni une explication pertinente aux comportements individuels. Les individus gagnent l'utilité des attitudes positives des autres individus et ils les récompensent ou les punissent de la même manière.

Après le jeu psychologique de Rabin (1993), Dufwenberg et Kirchsteiger (2004) et Falk et Fischbacher (2006) ont généralisé ce modèle aux préférences distributives. Mais le problème de Rabin (1993) et ses suiveurs est que les modèles qu'ils ont proposé sont si compliqué que c'est dure à obtenir des prévisions explicites. Le même problème existe aussi pour le travail de Rabin (2002).

Malgré tous leurs inconvénients, des modèles de préférence sociale ont réconcilié la théorie utilitaire classique en une forme plus conforme avec les résultats expérimentaux. Du point de vue classique, on attend à ce que les individus font des décisions égoïstes et maximisent leur propre pay-off. Cependant, les résultats d'expériences (Camerer, 2003) ne supportent pas cette prévision. Ainsi des modèles de

préférence sociale avec leurs propositions sur l'aversion à l'inégalité et la réciprocité, fournissez une approche utilitaire qui est plus compréhensible et compatible autant avec les résultats des expériences qu'avec l'intuition.

Le deuxième chapitre contient les théories de concurrence politique avec des explications sociologiques et psychologiques pour comprendre les décisions politiques d'individus. Nous avons analysé les théories sur les politiciens et électeurs. La campagne politique est supposée d'être un outil pour maximiser les votes pour des politiciens. Comme les résultats expérimentaux ont montré, les politiciens tiennent leur promesse généralement contrairement à l'espérance et à la perception d'individus.

Le fait que les politiciens tiennent leur promesse a été analysé selon la théorie dans le contexte de rationalité de nouveau. Les suiveurs de choix rationnels ont proposé que les politiciens ne tiendraient pas leurs promesses parce que le pouvoir de sanction des électeurs est inférieur à leur valeur espérée. Ils peuvent promettre tout pour gagner les élections, mais une fois élu comme ayant des agents rationnels, ils ne tiendraient pas leur promesse. D'autre part, Downs (1957) a prévu que tenir les promesses sont une partie de leur rationalité. Pour gagner les élections suivantes, les politiciens devraient accomplir leurs propositions. S'ils ne le font pas, les électeurs déçus ne choisiraient plus ces politiciens malhonnêtes dans l'élection suivante.

Les électeurs, d'autre part, prennent des décisions politiques qui maximisent leur utilité dans le contexte de théorie classique. Pour maximiser leur utilité, ils comparent les propositions politiques des candidats et choisissent le candidat qui a fait une promesse qui fournit la meilleure utilité. Ils évaluent aussi les actions des politiciens pour les élections suivantes. Si les candidats n'ont pas accompli leurs propositions passées, les électeurs ne voteraient pas de nouveau pour ces candidats parce que l'utilité présente qu'ils auront avec leur choix de ces politiciens serait inférieure à leur espérance. Et l'utilité future peut probablement être inférieure que leur espérance de nouveau si le même politicien est élu. Donc, l'utilité individuelle contient les actions des

politiciens élus. Puisqu'il y a toujours la réélection dans la réalité, les électeurs peuvent éliminer la dissonance. En plus de leur propre payoff, les électeurs peuvent tirer l'utilité des payoffs d'autres électeurs comme les approches alternatives proposent. La maximisation de la protection sociale, profitant le plus désavantageux des sujets et procurant une justice sociale peut être la motivation pour voter.

Dans le troisième chapitre, la conception du jeu expérimental et les procédures ont été expliquées en détail. Notre expérience était une simulation d'élection politique avec des groupes de 7 sujets. Les sujets ont été attribués aux rôles de politiciens (2) et électeurs (5) au début de l'expérience. Le vote est obligatoire donc la possibilité d'égalité de votes est 0. Les électeurs ont été répartis à 3 groupes de revenu; bas, milieu et haut. Le revenu initial est différent pour tous les groupes de revenu. Un niveau de consommation de subsistance est valable pour tous les électeurs du niveau de revenu le plus haut au plus bas. Premièrement, les politiciens font leur promesse politique (à chaque groupe de revenu séparément) de distribution de revenu qu'ils feront dans le cas de victoire, alors les électeurs votent étant donné ces promesses. Il y a 3 élections pour chaque type de population différenciée par la répartition de type de revenue (3-1-1, 2-2-1, 1-2-2 donnant le nombre d'électeurs dans chaque groupe de revenue).

On a demandé au gagnant après que les élections combien il s'est décidé distribuent au budget public de 500. La partie non distribuée était dans sa propre fonction de récompense. Après l'élection, la récompense des électeurs était la somme de leur revenu initial et a distribué le revenu après le niveau minimal social soustrayant. Et cette récompense était la somme d'avantage du bureau (des fonctions) et a non distribué la partie du budget moins le niveau de consommation de subsistance pour le politicien qui a gagné. Les politiciens qui ont perdu n'ont gagné rien après des élections. Donc leur récompense était moins la consommation de subsistance. Les participants ont été payés sur ces récompenses. Les sujets ont été informés des détails de design (conception) avant chaque session. L'expérience a consisté en trois traitements (3-1-1, 2-2-1, 1-2-2) et trois étapes (scènes) dans chaque (des nouvelles facultatives de résultat individuelles et le

dictateur, le jeu). Chaque traitement nous avons défini des ratios différents pour des groupes de revenu et dans dernières deux des trois étapes (scènes) nous a montré tous les nantissements (engagements) aux électeurs et des distributions de politique (police) à côté de leur propre.

On demande au politicien qui a gagné les élections combien il a décidé de distribuer du budget public. La partie non distribuée serait sa récompense. Après l'élection, le payoff des électeurs est la somme de leur revenu initial, du revenu distribué moins la consommation de subsistance. Le payoff du politicien est la somme du revenu attribué aux gouverneurs et la partie du budget non distribuée moins la consommation de subsistance s'il a gagné. Les politiciens qui ont perdu n'ont rien après les élections. Donc leur récompense est moins la consommation de subsistance. Les participants ont été payés étant donné ces récompenses. Les sujets ont été informés des détails du jeu avant chaque session. L'expérience a consisté en trois traitements (3-1-1, 2-2-1, 1-2-2) et trois étapes dans chaque traitement (le résultat individuel, les nouvelles optionnelles et le dictateur). Pour chaque traitement, les ratios des groupes de revenu changent et dans les deux dernières étapes, nous avons montré aux électeurs les promesses et distributions des politiciens à tous les groupes.

Avec cette conception du jeu, nous avons voulu observer les comportements individuels dans le cas où les individus prennent des décisions étant des politiciens et électeurs. Comme les modèles de préférence sociale et la théorie de concurrence politique expliquent, les politiciens pourraient distribuer le budget pour gagner les élections suivantes et dans leur dernière élection le niveau de distribution pourrait diminuer. Pour maximiser leurs votes, ils poursuivraient des stratégies comme l'achat de vote. Puisque leur récompense augmente avec la partie non distribuée du budget, la distribution diminuerait leur utilité et les électeurs, en observant les propositions aux autres, pourraient aussi agir dans une façon égoïste. En présentant une consommation de subsistance, nous avons eu pour le but de les faire agir sur la situation des sujets désavantagés dans la communauté.

Dans le quatrième chapitre, on a expliqué les résultats séparément pour les politiciens et électeurs. Cette étude a montré que les politiciens poursuivent des stratégies qui maximisent leurs votes. Particulièrement avec l'existence de concurrence, ils ont promis aux électeurs pivot plus. Même quand ils étaient dans un jeu de dictateur, ils ont réparti le budget avec de ratios élevés. Les politiciens ont tenu leur promesse bien que cette attitude diminuait leur utilité. Les comportements des électeurs sont analysés sous trois titres comme juste, égoïste et punition. Nous avons observé que les électeurs votent surtout avec intérêt individuel. Cependant, la moitié des électeurs du moyen et haut revenu ont voté pour aider les électeurs du revenu bas. Donc, le vote de justice a été aussi confirmé par nos résultats. Comme la réciprocité et la théorie de vote rationnel proposent, ils ne choisissent pas les politiciens malhonnêtes.

ABSTRACT

In this thesis, theoretical explanations on political decisions are tested experimentally. By using the assumptions of formal theories and predictions of the relevant models, a game has been designed as a political election simulation. Data from the experiment is analyzed; no macro data has been used. Except for the experimental outcomes, no empirical evidence is yielded. The aim of this experiment was to observe individual behaviors in a simulation. Therefore, instead of providing macro predictions and empirical evidence, this study provides explanations from behavioral economics approach to individual strategies. Social preference models and political competition theory has been examined by using an experimental model inspired by the Corazzini et al. (2014).

In the second chapter, we have provided theories and models that are concentrated on individual preferences. Social preference models are analyzed under two main titles. Since this study contains a simulation of elections followed by campaigns on proposals on income distribution, we have first analyzed the social preference models to understand preferences on policy proposals.

The first topic under the social preference models is *distributive preferences*. By explaining distributive preference models, we would like to provide a comprehensible approach to other related behaviors. Beside their own outcome, the individuals may derive utility from the outcome of other individuals. Then when they face with distribution options, they may act to maximize their own monetary outcome or to benefit others as well.

The second topic under the social preference models is *reciprocity*. Existence of repetitions in games provides individuals a chance to reward or punish the decision makers. And reciprocity, in that context, explains why people tend to act in a good/bad manner to others who were good/bad to them. The design of our experiment contains a re-election mechanism and in this setting, the motivation behind not selecting politicians is defined as reciprocity.

When we were evaluating distributive preference models, we have mainly analyzed Fehr and Schmidt (1999), Bolton and Ockenfels (2000), Charness and Rabin (2002). By adding a linear relation between utility and inequality aversion, Fehr and Schmidt (1999) made predictions about individual behaviors. These predictions were more in line with the evidence and intuition as well. Their model predicted that when individuals face distribution proposals, they tend to minimize the gap between their income and others. One of the components of individual utility function is proposed as the inequality aversion. And with the existence of inequality aversion, individual derives negative utility from inequality. Consequently, individual preferences may be targeted to reduce inequality to increase utility. The model of Fehr and Schmidt (1999) is the most used social preference model in the literature. Since it is easy to manipulate this model, to predict individual behaviors especially on distribution proposals, it is frequently referred to as in Tyran et al. (2006). But there is a disadvantage of the model, due to the linearity of inequality aversion; it yields corner solutions for dictator games. And these are not consistent with evidence. Bolton and Ockenfels (2000) generalized Fehr and Schmidt (1999). Their model contained reciprocity and competition beside inequality aversion. The predictions of the model were confirmed by experimental evidence. But for ultimatum games and dictator games, its solutions were implausible. Charness and Rabin (2002) developed a psychological model on distributive preferences by combining the effects of reciprocity, social welfare maximizing and fairness. Their predictions were confirmed by the results of experiments that they have conducted again. Results and predictions showed that subjects care about maximizing social welfare (efficiency) and fairness. But the complexity of the model made it hard to provide clear predictions actually.

For reciprocal preferences, Rabin (1993) is the most cited study and used frequently for predictions. Rabin (1993) introduced psychological motivations to the preferences and provided a game theoretical approach, which also contains psychological effects. He named his study as *psychological game theory*. His model contained kindness to others as its most basic explanation. He predicted that if people think one is kind/unkind or fair/unfair to them, they would also have a reciprocal attitude as reaction. Although the most important drawback of this model is not considering distributive preferences, Rabin (1993) provided an insightful explanation to individual behaviors. Individuals gain utility from positive attitudes of others and they reward or punish them in the same manner.

After the psychological game of Rabin (1993), Dufwenberg and Kirchsteiger (2004) and Falk and Fischbacher (2006) generalized that to distributive preferences. But the problem of Rabin (1993) and its followers was that the models were so complicated that clear predictions were hard to make. The same problem as mentioned before, was also observed in Charness and Rabin (2002).

Despite all of their drawbacks, social preference models reconciled classical utility theory in a form more consistent with real life evidence. From the classical point of view, subjects are expected to make selfish decisions and try to maximize their own utility. However, the evidence from experiments (Camerer, 2003) was not supporting that prediction. So social preference models with their proposals on inequality aversion and reciprocity provide a utility approach that is more comprehensible and consistent with both evidence and intuition.

The second chapter contains theories of political competition beside sociological and psychological explanations to understand political decisions of individuals. We analyzed theories on politicians and voters. In the political competition context,

campaign is assumed as a tool to maximize votes for politicians. As evidence shows, politicians are promise keepers generally unlike the expectation and perception of individuals.

Keeping promises in the context of politicians' behavior was analyzed by theory in the context of rationality. Rational choice scholars proposed that politicians do not keep their promises because the sanctioning power of the voters is lower than estimated. They can promise everything to win the elections but once elected as rational beings, they should not keep them. On the other hand, Downs (1957) predicted that keeping promises is a part of their rationality. To win the next elections politicians should fulfill their pledges. If they do not, disappointed voters will eliminate dishonest politicians in the next election.

Voters, on the other hand, make political decisions to maximize their own utility in the context of classical theory. In order to maximize their utility, they compare what candidates propose and choose the candidate proposing a policy providing the highest utility to them. They also evaluate the actions of the politicians for next elections. If they did not fulfill their past pledges, voters would not vote for them again because the present utility from those politicians is lower than they have expected. And the future utility may probably be lower than their expectation if the same politician is elected again. Therefore, the individual utility contains the actions of elected politicians. Since there is always re-election in real life, voters can eliminate dissonance. Beside their own outcome, voters can derive utility from the others' benefits as proposed by alternative approaches. Maximizing social welfare, benefiting the least well of subjects and just making their duty may be the motivation to vote for individuals.

In the third chapter, the design and procedures of the experiment are explained in detail. Our experiment was a political election simulation with groups of 7 subjects. Subjects were assigned to roles of politicians (2) and voters (5) at the beginning of experiment. The voting was compulsory so the possibility of tie was 0. Voters were

allocated to 3 income groups; low, middle and high. The initial income was different for all the income groups. A subsistence consumption level has been introduced and is higher than the lowest income. Firstly, politicians proposed policies (to every income group separately) about the distribution that they will make when they will be elected, then voters vote on these pledges. There are 3 election rounds for each politician.

The winner is asked after the elections how much he/she decided to distribute over the public budget. The undistributed part constitutes his/her share of the budget. After the election, the payoff of the voters is calculated and is equal to the sum of their initial income and distributed income after subtracting the subsistence consumption. And the payoff of the politician is the sum of the perk from office and the undistributed part of the budget minus subsistence consumption level if he/she wins. The politician who has lost the elections does not earn anything after elections. So his/her payoff is minus the subsistence consumption. Participants are paid over those payoffs. Subjects have been informed about the details of the experiment before every session. The experiment consisted of three treatments (3-1-1, 2-2-1, 1-2-2 showing the number of voters from different income levels) and three stages in each (individual outcome-optional news and dictator game). Each treatment is characterized with different ratios for income groups and in each treatment; in the last two of the three stages we have revealed to the voters all the pledges and policy distributions beside their own.

With that design of the game, we aimed to observe individual behaviors when they act as politicians and voters. As explained by the social preference models and political competition theory, politicians might distribute the budget to win the next elections and in their last election, as there are no reelection concerns, the distribution level might decrease. And to maximize their votes, they would pursue strategies such as vote buying. Since their payoff is increasing with the undistributed part of the budget, distributing the budget decreases their individual payoff. And voters, by observing the pledges to others also might act selfishly or altruistically. By introducing subsistence

consumption, we aimed to alert them about the situation of the least well of subjects in the community.

In the fourth chapter, results are explained separately for politicians and voters. This study showed that individuals as politicians pursued strategies to maximize their votes. Especially with the existence of competition, they pledged more to pivotal voters. In contradiction with the rational behavior, even when they were in a dictator game, they allocated the budget with high ratios. Politicians in our game were promise keepers even though it was decreasing their utility. Voting behavior, on the other hand, have been analyzed under three titles as fair, self-interested and punishment. We observed that voters mostly vote self interestedly. However half of the middle income and high income groups voted to benefit the low income. Therefore, fair voting was also confirmed by our results. As reciprocity and rational voting theory proposed they did not selected the dishonest politicians.

ÖZET

Bu tezde, politik kararlara yönelik teorik açıklamalar deneysel olarak test edilmiştir. Konuyla ilgili teorilerin ve modellerin varsayımları kullanılarak bir seçim simülasyonu dizayn edilmiştir. Yalnızca deney sonucunda elde edilen veriler kullanılmış gerçek veriler veya makro modellere yer verilmemiştir. Deneysel sonuçlar haricinde hiçbir ampirik analiz yapılmamıştır. Bu deneyin amacı, simülasyon davranışları bireysel davranışları gözlemlemek olduğu için, makro tahmin ve analizler yerine bireysel stratejilere davranışsal açıklamalar sunulmuştur. Bireysel davranışlara açıklama sunan sosyal tercih modelleri ve politik rekabet teorileri Corazzini vd. (2014) çalışmasından esinlenerek tasarlanan deney dahilinde test edilmiştir.

İkinci bölümde, bireysel tercihleri konu alan teori ve modellere yer verilmiştir. Sosyal tercih modelleri incelenirken iki başlık içinde toplanmıştır. Çalışma dahilindeki deney gelir dağılımı vaatleri üzerinden şekillenen bir seçim mekanizmasını incelediği için konuyla alakalı tahminler sunan sosyal Tercih Modelleri ele alınmıştır.

Sosyal tercih modelleri dâhilindeki ilk başlık dağılımsal tercihler olarak belirlenmiştir. Dağılımsal tercih modelleri ele alınarak gerçek hayatta ve deney dâhilinde gözlemlenen davranışların daha anlaşılır şekilde incelenmesi amaçlanmıştır. Sosyal tercih modellerinin temeli, kişisel fayda fonksiyonunun bireylerin kendi karları dışında birleşenleri de olabileceği düşüncesidir. Dağılımsal tercihler yaparken kendi karlarının yanı sıra diğerlerinin kazançlarının artışından da bir fayda elde ediyor olabilirler.

Sosyal tercih modellerinin ikinci başlığı karşılıklılık modelleridir. Özellikle tekrarlı oyunlarda, bireylerin birbirlerine karşı davranışlarının değişmesiyle birlikte bu konuda çalışmalar yapılmaya başlanmıştır. Karşılıklılık kavramı, bireylerin stratejik kararlar alırken diğerlerinin davranışlarını gözlemleyerek adil/nazik davranan kişilere aynı şekilde karşılık vermeleri olarak tanımlanmaktadır. Bu bağlamda kötü davranış sergileyenlere de aynı şekilde davranmaları beklenmektedir. Çalışmadaki deney dahilinde tekrarlanan seçimler yer almaktadır. Karşılıklılık kavramı bu çerçevede sözlerini tutmayan politikacıların tekrar seçilememesini açıklamaktadır.

Dağılımsal tercih modelleri incelenirken temel olarak Fehr ve Schmidt (1999), Bolton ve Ockenfels (2000), Charness ve Rabin (2002) analiz edildi. Fehr ve Schmidt (1999), bireysel fayda modeline doğrusal bir eşitsizlik algısı ekleyerek bireylerin diğerlerinin karlarına duyarlılıklarını dahil etmiştir. Modelin tahminleri klasik fayda modelleriyle kıyaslandığında gerçek verilerle ve yorumlarla daha uyumlu durumdadır. Bu model, dağılımsal tercihlerle karşılaştıklarında bireylerin karlar arasındaki farkı minimize edecek şekilde karar alacaklarını öne sürmektedir. Bu modelle birlikte bireysel fayda fonksiyonunun birleşenlerinden biri olarak eşitsizlikten kaçınma davranışı kabul edilmiştir. Bu birleşenin varlığında eşitsizlik biryin faydasında azalmaya sebep olmaktadır. Yani bireyin tercihleri diğerlerinin karlarını artırmaya yönelik şekillenebilir ve bundan fayda elde edebilir. Fehr ve Schmidt (1999) modeli literatürde en çok kullanılan sosyal tercih modelidir. Tyran vd. (2006) de gelir gruplarına ayrılmış bireylerin dağılımsal tercihlerini tahmin ederken bu modeli kullanmışlar ve yüksek gelirli bireylerin düşük gelirli olanların refahını artırmaya yönelik tercihler de bulunabileceklerini göstermişlerdir. Modelin en büyük dezavantajı , eşitsizlikten kaçınma davranışının doğrusallığı neticesinde diktatör oyunları için gerçek sonuçlarla tutarlı olmayan köşe çözümler (corner solutions) sunmakta olmasıdır. Bolton ve Ockenfels (2000), Fehr ve Schmidt (1999) modelini genelleştirilmiş. Bu model karşılıklılık ve eşitsizlikten kaçınma faktörlerinin yanı sıra rekabet faktörünü de içermektedir. Modelin öngörülleri deneysel veri ile uyumludur. Ancak ultimatoma ve diktatör oyunları için tahminleri sonuçlarla örtüşmemektedir. Charness ve Rabin (2002), karşılıklılık faktörüyle sosyal refahı maksimizasyona yönelik tercihleri ve adil dağılımı

birleřtirerek daęılımsal tercih modellerine bir yenisini eklemiřtir. Modelin tahminleri yine yazarlar tarafından uygulanan deney sonularıyla uyumlu bulunmuřtur. Sonular ve tahminler bireylerin daęılımsal tercihler yaparken sosyal refah maksimizasyonuna ve adil daęılıma nem verdiklerini gstermiřtir. Ancak, modelin fazla karmařık olması anlařılır ve net tahminler yapılmasını zorlařtırmaktadır.

Karřılıklılık tercihleriyle alakalı modellerin ilki ve en ok kullanılanı Rabin (1993)'dir. Rabin, psikolojik etkenleri de ekleyerek birey davranıřlarını aıklamıř ve fayda maksimizasyonuna farklı bir yaklařım sunmuřtur. Bu alıřma yazar tarafından psikolojik oyun teorisi olarak adlandırılmıřtır. Modelin temelinde karřılıklı nezaket yer almaktadır. Bireylerin dięerlerinden nazık/kaba davranıřlar grdklerinde aynı řekilde karřılık vereceklerini ne srmektedir. Bireyler iyi davranıřlar sergileyen bireylere iyi řekilde karřılık vererek (ya da tam tersi) kiřisel fayda elde etmektedirler. Model bireysel davranıřlara iliřkin ok nemli varsayımlar sunuyor olmasına raęmen daęılımsal tercihleri ele almamıř olması en nemli eksiklerinden biri olarak grlmřtir.

Rabin (1993) alıřmasını takiben, Dufwenberg ve Kirchsteiger (2004) ve Falk ve Fischbacher (2006) tarafından benzer tercih modelleri geliřtirilmiřtir. Ama Rabin (1993) ve takipi modellerinin en byk sorunu modellerin karmařıklıęından dolayı yapılan tahminlerin net olmamasıdır. Aynı problem daęılımsal tercih modellerinde anlatılan Charness ve Rabin (2002)'de de grlmektedir.

Tm eksikliklerine raęmen, sosyal tercih modelleri klasik fayda teorisinin eksik kaldıęı ynleri doldurmuř ve bireysel davranıřlara gerekle uyumlu aıklamalar sunmuřtur. Klasik fayda teorisi bireylerin kendi ıkarlarını maksimize etmeye ynelik tercih yapmaları gerektięini ne srmektedir. Ancak, deneylerde (Camerer, 2003) elde edilen sonular bu klasik tahmini destekleyici deęildir. Sosyal tercih modelleri dahilinde sunulan eřitsizlikten kaınma ve karřılıklılık davranıřları, klasik teorinin tahminlerini eksik kılan unsurlar olarak algılanmıř ve bu řekilde modeller gerek davranıřlara uygun hale getirilmeye alıřılmıřtır.

İkinci bölümde, bahsedilen sosyolojik ve psikolojik davranış temellerinin yanında politik rekabet teorisinin de varsayımlarına yer verilmiştir. Gerçek hayatta da olduğu gibi, seçim kampanyaları politikacıların oylarını artırmak için araç olarak Kabul edilmektedir. Ancak kampanya vaatlerinin anlamlılığı ya da gerçekten bu vaatlerin tutulup tutulmayacağı şüphelidir. Gerçek veriler birey algılarının aksine politikacıların genelde sözlerini tuttuğunu göstermektedir.

Seçim vaatlerini yerine getirmek klasik rasyonalite düşünürleri tarafından anlamsız bulunmaktadır. Klasik rasyonel teori düşünürleri, seçimlerin yaptırım gücünün düşük olduğunu ve bu sebeple seçim vaatlerinin tutulmasının anlamlı olmadığını öne sürmüşlerdir. Bu durumda politikacılar seçimleri kazanmak için her şeyi vaat edebilirler ancak yerine getirmeyeceklerdir. Downs(1957), demokrasiyi iktisadi bir şekilde analiz ederken politikacıların vaatlerine yerine getirmeleri gerektiğini ifade etmiştir. Sonraki seçimlerde de başarılı olmak için politikacıların vaatlerini tutmaları gerekmektedir. Vaatlerini yerine getirmediklerinde bir sonraki seçimde, hayal kırıklığına uğramış olan seçmenler tekrar onlara oy vermeyeceklerdir.

Klasik teorinin seçmenler için olan varsayımları ise kendi çıkarlarını maksimize etmeye yönelik hareket ettikleri yönündedir. Yani, kendi faydalarını kim maksimize etmeyi vaat ediyorsa ona oy vereceklerdir. Bir sonraki seçimlerde oy kararı alırken ise, seçilmiş olan politikacıların faaliyetlerine ilişkin değerlendirmede bulunacaklardır. Eğer politikacılar tarafından vaatler yerlerine getirilmediyse, bunu gören seçmenler tekrar aynı politikacılara oy vermeyeceklerdir. Çünkü oy kararları beklediklerinden daha düşük bir faydayla sonuçlanmalarına sebep olmuştur. Eğer aynı politikacı tekrar kazanırsa, yine vaatlerini yerine getirmeme ihtimali olacaktır. Bu sebeple bireyler oy kararlarını alırken politikacıların geçmiş faaliyetlerini de değerlendirmektedirler. Gerçek hayatta ise yeniden seçim ihtimali her zaman vardır ve seçmenler sözlerini tutmayan politikacıları tekrar seçmemelidir teoriye göre. Alternatif teoriler ise seçmenlerin verdikleri oylarla başkalarının faydalarını da etkilemeyi hedefleyebileceklerini ve bundan kişisel fayda

elde edebileceklerini öne sürmektedir. Sosyal faydayı artırmak, düşük gelirli kişilerin refahını artırmak ve görevini yerine getiriyor olmak gibi motivasyonlar oy verme tercihini şekillendirebilir.

Üçüncü bölümde deney mekanizması ve uygulama şekli detaylarıyla anlatılmıştır. Oyun dahilinde katılımcılar yedişer kişilik gruplara ayrılmışlar ve sonrasında seçmen ya da politikacı olarak rollere atanmışlardır. Her bir grupta 2 politikacı ve 5 seçmen bulunmaktadır. Oyun dahilinde oy vermek zorunlu olduğu için, iki politikacının eşit oy alması imkansızdır.

Kazanan politikacı, seçim sonrasında kamu bütçesini nasıl dağıtacağına dair karar almıştır. Seçim sonrası gelirler, seçmenler için gelir gruplarına göre sahip oldukları ilk gelirler ile kazanan politikacının dağılım kararına bağlı politik gelirlerinin toplamı olarak belirlenmiştir. Ancak tanımlanan asgari tüketim seviyesi her bir oyuncunun seçim sonrası gelirinden düşürülerek kazanç fonksiyonları tanımlanmıştır. Politikacılar için ise iki durum mevcuttur kazanmak ya da kaybetmek. Kazanan politikacı alacağı maaşa ek olarak, kamu bütçesinin dağıtılmayan kısmına da sahip olacaktır. Kaybeden politikacı ise ne politik gelir ne de maaş alacak dolayısıyla negatif asgari tüketim kadar bir kazanca sahip olacaktır. Bu durumda, kazanan politikacı için seçimlerin tekrarlanması dağılım kararlarında baskı yaratıyor olsa da, bütçeyi dağıtmak kar azaltıcı bir davranıştır. Deney dahilinde gelir grubu dağılımlarının değiştirildiği 3 temel oyun bulunmaktadır(3-1-1,2-2-1,1-2-2). Ve her bir oyun 3 aşamadan oluşmaktadır. Bu aşamalar; bireysel fayda, isteğe bağlı haberler ve diktatör oyunu olarak adlandırılmıştır.

Deney tasarımı bireylerin politikacı ve seçmen olarak davranışlarını gözlemlemeyi amaçlamaktadır. Sosyal tercih modelleri ve politik rekabet teorisi kapsamında açıklandığı gibi politikacılar sonraki seçimlerde kazanmak için bütçeyi dağıtabilirler. Ancak girecekleri son seçim diktatör oyunu tasarımı olduğu için, tekrarlama etkisi bulunmamaktadır ve bu dağıtım kararını düşürebilir. Seçim öncesi kampanya aşamasında ise, politik desteklerini artırmak için çoğunluğa ya da belirleyici

gruplara yönelik vaatlerde bulunabilirler. Seçmenler ise, kendi faydalarını yükseltmeye yönelik hareket ederlerken, topluluktaki diğer bireylerin faydalarını da düşünerek karar verebilirler. Sosyal tercih modellerince açıklandığı üzere, bireylerin fayda fonksiyonları diğer bireylerin kazançlarını da içerebilmektedir. Oyun dahilinde asgari bir geçim seviyesi tanımlayarak bireylerin bu yöndeki davranışlarını teşvik etmeyi ve duyarlılıklarını gözlemlemeyi amaçladık.

Dördüncü bölümde ise, deney sonuçları politikacılar ve seçmenler için ayrı ayrı açıklanmıştır. Sonuçlar, politikacı rolündeki bireylerin faydalarını maksimize etmek için farklı stratejiler izleyebileceklerini gösterir nitelikte idi. Özellikle rekabetin artışı ile her bir oyunun son aşamasında belirleyici gelir gruplarına yönelik vaatlerde önemli bir artış olduğu gözlemlendi. Diktatör oyunu aşamasında dahi paylaşım oranları yüksekti. Politikacı rolündeki bireylerin, kendi faydalarından feragat ederek bütçeyi paylaştıkları gözlemlendi.

Seçmen davranışını incelerken ise üç grup tanımladık; adil, bencil ve cezalandırma davranışları. Oyun sonuçlarına göre seçmenlerin çoğu kendi faydaları doğrultusunda oy verdiler yani, bencil oy verme davranış daha yüksek oranda idi. Adil oy verme davranışı da düşük bir oranda değildi, orta ve yüksek gelir grubuna mensup bireyler oy verirken düşük gelir grubunun faydasını yöneltmeye yönelik kararlar aldılar. Daha önceki çalışmaların sonuçlarını da doğrular nitelikte tespit edildi bu sonuç. Karşılıklılık davranışı ve rasyonel oy verme teorileri tarafından da öne sürüldüğü gibi, cezalandırma davranışı da oldukça yüksek oranda idi. Seçmenler verdikleri sözleri tutmayan politikacıları bir sonraki seçimde desteklemeyi tercih ettiler.

CHAPTER 1: INTRODUCTION

When economic theorists evaluate individual decisions, the most over used criterion may be *rationality*. Any behaviour, preference, belief, strategy etc. can be identified as rational, irrational or arational and sometimes boundedly rational or *rationalizable*. Despite its occasional misuse, by the definition of *Downs (1957)*, which is pertinent for both political and economic decisions, rationality is choosing the best possible way for reaching an objective.

The most triggering question in the game theory literature may be why real life subjects are concerned with others' welfare even in one-shot decision setups contrasting with the classical utility theorem. For over 30 years, since Kahneman has conducted an experimental ultimatum game with his students in a classroom, the altruistic motives of agents are of concern. Later, the design of that ultimatum game was simplified by Kahneman et al. (1986) and the standard dictator game has been used more frequently by his followers and became one of the most popular methods among experimentalists. The dictator game is not a proper game under a game theoretic sense as one of the participants acting as a dictator decides on a distribution of an endowment between himself and a passive recipient. To investigate that *abnormal* incentive of sharing, dictator games are the simplest tool with their possibility of being differentiated in variety of ways. Their simple design enables us to influence individual behaviour in a variety of ways.

Thousands of dictator games have been conducted till today. Although supposedly self interested, utility maximizing subjects are expected to keep all of the endowment as predicted from profit maximization hypothesis, experimental results generally exhibits evidence against that.

In the majority of experiments -as *Camerer (2003)* emphasized- almost 50% of the subjects distributed to the receivers 20% of the endowment in average. According to the meta study of *Engel (2011)* including 616 treatments, this percentage gets even higher (28,5%)¹.

In real life, giving can be driven by psychological and sociological motives beside self-interest. Some of the social preference models include those non-pecuniary effects on especially distributional decisions to reconcile the narrow presumptions of the traditional theory. Inequality aversion and difference aversion are two main factors, these models generally employs (Fehr et al., 1999; Bolton et al., 2000; Loewenstein et al., 1989). These aversions can be observed in 2 ways: favoring or avoiding. Social preference models postulate that as the gap between outcomes of the shareholders increases, the utility of the decision maker might increase or decrease depending on the way of aversion. Therefore, in dictator games, individual self-interested attitude may be overveiled by the desire to “*taste for fairness*” (*Dana et al., 2006*).

In this study, we are using a manipulated dictator game to examine the effects of electoral competition on giving pledges and fairness perception on voting in a political election design. The setup we are using is similar to *Corazzini et al. (2014)* that investigates the electoral competition between two candidates and the psychological costs of not complying with their campaign promises. The voters are identical and the main purpose is to quantify that psychological cost. Here, we are using this setup by differentiating the voter profile according to their income levels and observe the fairness in policy proposals as well as voting behaviour.

¹ While Camerer (2003) examined 11 games between 1994-1998, Engel (2011) analysed 616 games from 129 papers between 1992-2009 (and 4 in 2010) in their meta studies.

The experimental design is mainly intended to make that *political election simulation* more consistent with real life as people have different expectations from the policy makers according to their pre-election endowments.

If political decisions are investigated in a dictator game, subjects with homogenous initial and distributed incomes exclude perhaps two of the most important concerns of living in a society; fairness perception and welfare of others which can be defined *pro-social* preferences.

In their experiment, Corazzini et al. (2014) explain the reason of pledge fulfilment in a one-shot game by the “*psychological cost of complying with other people’s expectations and support*”. The politicians keep the promise that they have made during election campaigns to avoid the disturbance of lying to their supporters. Similarly, in our case, we have observed that the politicians feel responsibility only towards these subgroups that they have tried to convince during campaigns. We can say that there is the vote buying behaviour combined with post-election responsibility.

As recipients, electorates in the game decide which candidate to support depending on the pledges that these make. In an experimental design in which their initial income are the same, we can not observe their reaction to unfair or inegalitarian or corrupted policies and pledges. The standard economic approach to politics which is called by *Mueller (1989)* as the “*narrow self interest model*” postulates that voters are self-interested and rational so that they act to maximize their own utility (*Roberts, 1977*). But again as *Mueller* emphasized, that approach is not sufficient to explain voting behaviour. Just as explained above for politicians, voters’ decisions may also be driven by non-monetary incentives. When voters are allocated to income groups in a committee, their voting decisions might be shaped on others’ outcome as well as their own.

The present study provides an examination of the assumptions of the formal theories assumptions on individual utility and fairness in a political election game. As arguing the rationality, altruism and non-egoistic preferences, assumptions from several disciplines as economics, politics, psychology and sociology are used. In the following chapters these theorems with their experimental considerations will be explained and congruence of the results will be evaluated.



CHAPTER 2: UNDERSTANDING INDIVIDUAL PREFERENCES

2.1. Social Preference Models

Traditional economic model postulates that agents are *homo economicus*: self interested and rational. However, in real life and economic experiments, individual behaviour departs from self-interest. Behavioural economics, as a relatively new field, seeks wider explanations for human behaviours by relaxing mainly two assumptions of the classical theory; rationality and preferences. Rationality can be *bounded*; its definition can change depending on the constraints and situations. And preferences can be *pro-social* as well as self-interested. Since early 90's social preference models inspired by these departures reconciled self-interest by appending interdependent psychological and sociological factors such as inequality aversion, social welfare, envy, reciprocity and difference aversion.

Inequality aversion models assume that people tend to make decisions toward equal distributions, social welfare models on the other hand assume that they act to benefit the least well-off subjects and difference aversion models propose that agents are sensitive to the outcome gaps. Models and researches on social preference can be clustered into two main titles: distributive preferences and reciprocal preferences. Some of the social preference models that are the most pertinent ones to answer the questions of the present study will be explained in this section². Firstly, distribute preference models will be analysed then reciprocal preferences will be appended to that investigation.

² For a more detailed list of social preference models see Table 1.

The most frequently used model in related studies is (*Fehr & Schmidt, 1999 from now on referred to as FS*). In this model, FS introduced inequality aversion to standard individual utility function.

To solve the *puzzle* of unselfishness, they proposed that the care about equity should be accounted for. In their *simple* model with linear utility function, they appended an inequality aversion (which is piecewise linear). With the inequality aversion, people gain disutility from unequal distribution. And in FS, that disutility is greater when the other player is better off than when he/she is worse off³.

Added linear aversion introduces the sensitivity to others' final outcome beside their own. That *simple model* provides predictions more consistent with the experimental evidences than self interest models. Its most important advantage is the reconciliation of theoretical models with experimental evidences. Inequality aversion explains why subjects deviate from self-interest with their reaction toward others' outcome (negatively or positively) and also how fair/selfish participants force others to act like them. FS tested their model using simple bargaining and marketing games. For the ultimatum game and market games with responder/proposer competition, the predictions of the model were consistent with evidences. But with dictator games, due to its linearity, FS provides corner solutions. For the dictator games, the model predicted three results: 0%, 100% or 50% distribution. So, the outcomes should be very *fair* or very *unfair*. Since experimental results are generally between these extreme solutions, their prediction is refuted by evidence. Another disadvantage of the model is that it does not include reciprocity. Despite its drawbacks, due to its simplicity, FS model is frequently used to predict dictators' and receivers' attitudes in manipulated dictator games.

³ This provides an explanation for *inequality favoring* behavior of individuals' (Dana et al., 2005). Participants may react to distributions to avoid being more worse off.

Charness and Rabin (2002) (from now on referred to as CR) developed a distributive preference model by employing inequality aversion and reciprocity in addition to self-interest. In that study a series of simple experiments (29 games, 467 participants, 1697 decisions) was conducted to investigate individuals' sensitivity about social welfare, outcome differences and others' attitudes. In their game, subjects were allocated to different income groups and given different payoffs and their role was changing during the game as ahead players and behind players.

Their model proposed that the utility of the subjects increases as the social welfare increases. Consequently, CR postulated that increasing the utility of the least well-off subject is more important than equalizing payoffs and the willingness to sacrifice their own outcome for others can change upon others' behaviours towards them. Two types of social welfare functions were incorporated to distributive preference: Rawlsian maximin criterion, utilitarian welfare function.

The first design in *Charness and Rabin (2002)* was a simple binary dictator game in which subjects choose two of the eight allocation proposals. And as their role changed, they were given an opportunity to see other player's past decisions. They analyzed the consistency of the decisions by separating them into four main distributive preference explanations: self-interest, difference aversion, competitive welfare and social welfare. As CR reported, their results were more in line with social welfare than other three aspects. Since it was hard to disentangle those two affects, CR also emphasized that some of the changes could also be caused by difference aversion in addition to social welfare. But even if there are multiple effects, the results of their first game have shown that social preference based choices overruled other explanations (on average 87% of the choices were explained by social welfare). The second design in CR was a multi-person game to see how individuals react to other players' payoff. Results have shown that people care about increasing total social outcome, with CR's words "efficiency", but they also care about increasing the utility of the least well offs.

Another important model relaxing the assumptions of the standard utility is *Rabin (1993)*. Actually Rabin's model was maybe the first one introducing non-pecuniary motives to game theory. Even though it is a model of reciprocal preference, Rabin's successors changed the model by appending distributive preference.

By adding psychological factors, he evolved standard game theory to *psychological game theory*. In his model, the departure from the self-interest equilibrium is caused by *reciprocity*. And the main incentive driving the subjects is the belief that they have regarding other players' kindness/fairness.

According to the results of this study, subjects behave kindly/fairly to players who were kind/fair to them and have incentive to punish people who were not kind or unfair. Therefore, if there is sufficiently strong reciprocity, coordination becomes equilibrium strategy in prisoner dilemma type games. This is consistent with real evidences. Rabin's model is a milestone to understand reciprocity, but the one drawback of the model is that it does not consider distributive preferences.

By generalizing Rabin (1993), *Falk and Fischbacher (2006)* (from now on referred to as *FF*) developed a theory of distributive reciprocity.

“According to this theory, reciprocity is a behavioural response to perceived kindness and unkindness, where kindness comprises both distributional fairness as well as fairness intentions.”

In their model, distributive preferences were introduced as inequality aversion. When they were evolving the model, they used the assumptions of a psychological game (*Geanakoplos et al., 1989*) and made predictions about economic experiments. In the *FF* model, reciprocity was erected upon two factors: consequences of actions and underlying intentions of subjects. That reciprocity affects the behaviour of the subjects regardless of their role in games.

FF tested their model using the ultimatum, centipede, public good and dictator games. The predictions of model were mostly consistent with data and evidence for that kind of games. For dictator games their model predicts that for even very high values of reciprocity, dictators give at most half of the endowment. The model was very useful because its results were consistent with the stylized facts of experiments but due to its complexity producing clear predictions, it was very hard and it generated multiple equilibria like CR.

The models explained above were designed to provide a clear explanation to previous experiments and empirical studies. Following their development, plenty of experiments have been conducted to test their validity and to model different games from bargaining to voting. The results of these studies showed that individual preferences are heterogeneous on fairness.

Since our study is a voting game, we have to investigate political theory literature in addition to economic models and theories as the attitude and choices of politicians and voters are of concern. The following two sections will analyse the behaviour of politicians and voters by using experimental studies related to social preference models and political competition theory.

Table 1: Social Preference Models

<i>Author(s)</i>	<i>Appended Factors</i>	<i>Predictions</i>	<i>Drawbacks</i>
Rabin(1993)	Fairness, reciprocity into game theoretical models, <i>psychological GT</i>	Reciprocity leads to cooperation equilibriums in PD (Binary games)	• No Distributive preferences • Restricted to binary games • Multiplicity of equilibria
FS(1999)	Inequality Aversion	Self Interested utility includes inequality aversion to others' outcome	• Linearity • Corner solutions • Predictions are not consistent for DG
Bolton and Ockenfels (2000)	Inequality aversion, reciprocity, competition (a generalized form of FS)	ERC predictions fit the evidences about strategies of subjects by introducing reciprocity and competition to FS	• Implausible predictions for UG and DG
Konow (2000)	Accountability, efficiency and need affect individual utility from allocations	Accountability increases congruency of policies Reciprocity is effective on decisions of DG and UG	• Predictions about the effect reciprocity was not consistent with evidence

CR (2002)	Distributive preferences form of Rabin (1993) Quasi maximin preferences Reciprocity Inequality Aversion Psychological Games	Social welfare (efficiency) maximizing preferences increases individual utility, Quasi maximin preferences benefits the least well of subjects	• Multiple equilibrium solutions as Rabin(1993) • Complexity of the model causes unclear predictions (number of effects)
Dufwenberg and Kirchsteiger (2004)	Generalized extensive N-person game form of Rabin (1993)	Reciprocal preferences are effective in N-person games as well as PD	• Hard to test empirically due to its complexity
FF (2006)	Generalized form of Rabin (1993) (N-person) Inequality aversion included as distributive preference	Distributive preferences in N person games are driven by the inequality aversion Equity is not same with equality all the time	• A complex model as Rabin (1993) despite its valuable predictions to inequality aversion

2.2. Explaining The Behaviour of Politicians

Traditionally; economics and politics are two fields separated by the questions they ask, topics they investigate and assumptions they use to explain individuals' behaviours. Aristotle proposed, "*man is by nature a political animal*" arguing that the main instinct individuals pursue in their life is discourse and political activity. Adam Smith, on the other hand, proposed that the main motivation behind individual activities is the private utility people gain as *homo economicus* (Mueller, 2003). However, to explain the behaviours of politicians and voters, both economic and political theories should be considered. In real life, political decisions have strong influences on economic variables. Governments and citizens are connected through mainly economic regulations of governments. The imposed taxes, public budget and spending, international and national policies are the factors affecting individual economic decisions. In this context, we can say that voting and campaigning in elections should have economic backgrounds.

When explaining democracy from an economic point of view Downs (1957) proposed that every agent pursues their own self interest when making political decisions. Downs explained the behaviours of voters and politicians (also political parties) by combining political and economic theories. With his words, "*the narrow concept of rationality*" is the economic rationality in traditional terms. His model was the first expected utility model of political decisions and the following literature has been shaped upon Downs' work either by criticizing or by supporting it. He explained two tautological conclusions that a theorist should avoid while evaluating rationality in an attitude; whether it is going to an end or objective and the comparison of its cost and benefits. Since there may be more than one incentive that drives an action, considering the end of an action leads to the misconception of rationality. One can work to increase his welfare and also he may like working as well. So, the objective of working may be earning money or having pleasure.

Since it is quite hard to disentangle these motivations in every kind of action, he believed that it is required to eliminate the psychological and personal factors to analyze rationality. Therefore in his study, rationality was defined as individuals' actions but not their end.

When defining the rational man, Downs followed five assumptions of *Arrow (1951)*; *an individual* i. always can make a decision when facing a bundle of alternatives; ii. can rank the alternatives according to his/her preferences; iii. has *transitive ranking*; iv. can always choose the opportunity with the highest rank; v. always decides the same alternative faced with the same bundle of alternatives. Hence, in his model all agents have the same qualities including politicians, voters and political parties. That definition reveals that Downs' *homo politicus* is *an average rational man*. Consequently, we can say that Downs does not include non-political aims of political actions into his model. So the classical *homo politicus* is supposed to be a man who seeks for the benefits and costs of his actions while making even a political decision. Even though he confessed that this approach is not sufficient to explain political decisions properly, his model is designated to show the validity of classical rationalism. As this was an investigation of political rationality, the model has considered just the ends connected with the political decisions and not personal or psychological ones. The behaviours of politicians and voters were analyzed in this context and this has led to a discussion of the political rationalism.

Mueller (1989), on the other hand, strictly criticized this narrow self-interest model since it included just the political motivations. Mueller proposed instead that it is not realistic at all and political decisions may be shaped by personal, psychological or sociological motivations as well. *Mueller (2003)* states that without its non self-interest background, a decision cannot be analyzed using the concept of rationality. His theory contrasting with Downs' assumptions, explained political decisions by taking personal and psychological factors into account. Consequently, his view of policy is much more a public choice approach.

Despite that the work of Downs was in the field of public choice, it followed a more classical way to understand political behaviours. When investigating rationality in politics, Mueller, on the other hand, proposed that such topics as rent seeking agents, interest groups⁴ and contractors must be considered.

In this part of the study, the behaviour of the politicians will be analyzed by using these two main conflicting rationality theories in political competition context. These theories provided inspiration to many studies investigating social and public choices and political decisions. In our study, we designed an experiment that examines campaigning, voting and distribution behaviours.

2.2.1 Campaigns and Policy Outcomes

Election, by its nature, can be supposed to be a contract between government and citizens. To make that contract, both parties should offer their powers as votes and governmental services. As many of the studies in this field references, to think about election process and government, one should firstly look at the opinions of J.S. Mill and J. Schumpeter. Mill proposed that voting in a representative democracy is not only choosing who to govern but also signalling preferences and with his wording in his work in 1863, he defined the assembly of representatives by

“every person in the country may count upon finding somebody who speaks his mind . . . where those whose opinion is overruled, feel satisfied that it is heard.”

Schumpeter eight decades later postulated that the main objective of the elections is to choose government and incidentally reflect electorates' opinions (*Imbeau, 2009; Mueller, 2003; Przeworski et al., 1999*). Both opinions have one thing in common; the conception of elections as voters' evaluation of politicians.

⁴ See Olson (1965).

Before the elections, politicians communicate the ideology that they are representing and the policies that they are supporting. As Imbeau (2009) postulated what makes elections more than a lottery is the campaign activities. The speech is used generally as a tool to gather votes from citizens, to affect their preferences. This can be considered in its persuasive function. Speech has mainly three functions; information, persuasion, manipulation (Imbeau, 2009). What makes speech a policy tool are these functions. Politicians can declare information about some specific title (or just their own opinion about it) or they can try to make citizens act the way they want by speaking (Dahl, 1963). Now with that tool, elections can be thought as a contract between candidates and voters. Citizens, as Mill and Schumpeter proposed, votes based on policy pledges and politicians' characteristics. When they see some act they desire, they can support it by voting the politicians who has proposed it. Therefore, elections can be considered as screening and sanctioning mechanisms.

Campaign is perceived as an unnecessary tool just an "*arm race*" as well (Abrams et al., 2004). Pledges before elections can be seen as the mean of exchange politicians propose to voters. But the most important question about pledges is whether they are fulfilled after elections or not? For the rational choice scholars like Austen-Smith et al. (1989) incumbent politicians never keep their promises. Barro (1973) also proposed that since the voters reaction can not be enough keeping their promises is not rational for politicians in his economic model of control. So, promises are just a tool to persuade voters. Even elections are considered to have a screening and sanctioning function, citizens cannot force politicians keep their promises and pledges are just *cheap talk* and deception is unavoidable. That also means that politicians can promise for even heaven prior to elections to provoke their party or just themselves.

But the most important question about pledges is whether they are fulfilled after elections or not? For the rational choice scholars like Austen-Smith et al. (1989), incumbent politicians never keep their promises.

Barro (1973) also proposed that since the voters cannot show their reaction collectively, in an organised manner, keeping their promises is not rational for politicians. So, promises are just a tool to persuade voters. Even if elections are considered to have a screening and sanctioning function, citizens cannot force politicians to keep their promises, pledges are just *cheap talk* and deception is unavoidable. This means in return that politicians can even promise -as Abrams et al. (2004) states- for heaven prior to elections to provoke their party or just themselves.

In contrast with rational choice theories, empirical evidence generally shows that politicians keep their promises to some extent. Pomper et al. (1980) found that 79% of the political pledges are fulfilled in USA. Rallings (1987) has found that in UK, political pledges are kept by 64% and in Canada, by 71,5%. Royed (1996) also provides with a similar percentage, 80% for USA. Another study from Italy, Moury (2011) reported that ratio of pledge fulfilment is 57%⁵.

Petry et al. (2009) investigated 18 studies on pledge fulfilment from 1968 to 2008 and reported that parties keep 67% of promises on average once they are elected. This ratio of fulfilment reaches a minimum at Wisconsin with 45% and a maximum in Britain with 85%. A similar study for Turkey (Toros, 2015) analyzed the pledge fulfilment between 1983-2001 and reported that 40% of the pledges are fulfilled in Turkey, well below its Western counterparts. As Toros (2015) proposed, other factors such as education level of voters and disruptions in party systems should be analyzed for more solid results.

As explained above, real evidences are not consistent with the rational choice theory. Politicians are more or less promise keepers. The political theory explaining the link between pledges and policy outcomes that is most referred to is *mandate theory*.

⁵ For a detailed list of studies and findings see Pétry et al. (1998).

According to the mandate theory of democracy, politicians keep their promises as a consequence of being elected by voters. In a democratic system, politicians serve their policy offers to electorates. So, voting is to choose a policy or a policy bearer among proposals and candidates. Therefore, once a politician is elected, she/he pursues a *mandate* to keep his promise and implement his policy offer. Another view to representation is “*accountability*”. That view proposes that elections are control mechanisms for politicians’ activities (Manin et al., 1999).

To understand better the mandate theory, Downs model of political rationality is the most comprehensible tool. According to Downs, politicians as well as individuals, act rational, pursue their self-interest as they are making decisions; politicians are office seekers and voters on the other hand, as policy seekers, decide which candidate to support by comparing policy proposals by means of future benefits. Wittman (1977) opposes that view assuming that parties also care about policy outcomes. This creates a dilemma for the political parties: aiming for the median voter ideology will move them away from their preferred ideology and aiming their preferred policy will move them away from the median voter ideology and decrease their likelihood of winning the elections. If parties have policy motivations, they can propose policies different than the median voter ideology if there is uncertainty about the median voter. When we model parties as policy seekers, there may be no equilibrium prediction.

Manin et al. (1999) defines the utility of politicians by clustering it into three: politicians may get utility by implementing policies, they may get private benefits from office or they may derive satisfaction with the prestigious situation of being in the office. To reach their objective, political parties and politicians try to maximize their votes. The biggest obstacles which politicians face after being elected are the following elections. Since voters use past information, if candidates want to be elected again, they must not lose the trust of voters, consequently they have to keep their promises.

In Downs' model, political rationality is necessary for all political systems, and for politicians he describes political rationality as i. diminishing uncertainty and ii. stable order. By satisfying these two conditions political rationality can be sustained. Consequently, politicians should find strategies to cope with the uncertainty and to gain the trust and respect of electorates and provide a stable order to enhance their political support and not to lose following elections. Policy dissonance⁶ (Imbeau, 2009) is then one of the worst attitudes for politicians if they have re-election concerns. In a similar vein with Downs, Buchanan defined the aim of governments in two ways: i. government itself acts like an individual and tries to maximize its utility ii. even if it has not its own welfare function, agents in the government try to reach a collective utility (Buchanan, 1949). When we consider this view, we can say that either as an individual or as a party, political rationality is required to pursue utility maximizing.

Given that view of political rationality, a party model pertinent with the mandate theory has emerged: the responsible party model (APSA, 1950; Friedrich, 1963; Klingemann et al., 1994). According to this model, in a system which voters are free to choose, if there is more than one political party, parties should keep their promises not to be weeded out. As Downs proposed, there must be at least a little fraction of voters who pursue their self-interest and that selfish voting behaviour forces politicians to fulfil their pledge not to lose their vote potential.

As Manin et al. (1999) emphasized, there are so many factors that affect the responsiveness degree of governments including voters' educational level, structure of the political competition etc. that are not in the context of the present study. Since this study aims to provide experimental evidence on political decisions by conducting an experimental electoral game and testing the hypothesis and results of previous models of political theory and economics. The way he/she is described by political theorists, the rational politician should try to maximize his/her political support to win the elections.

⁶ Absence of harmony between policy pledges and policy outcomes

There are various strategies provided in the literature such as median voter and lobbying. We have designed an election mechanism that enables politicians to make income promises to voters from different income groups. Existence of different income groups and changing allocation of voters to these income groups is allowed so that we can see if politicians have vote buying behaviour.

Vote buying basically can be seen as an economical exchange or even an auction. There is the demand of votes from politicians and voters provide their votes, just as any other commodity in the market. If we are not entering into ethical concerns, this is an appropriate way to describe the elections. However, that trade intends to convince individuals to vote in a certain way or not to vote or just to vote (Schaffer et al., 2009). With its objective, vote buying is an electoral fraud and a bad policy but may be good politics (Finan, 2011). Dekel, Jackson, and Wolinsky (2008) modelled vote buying as a game and analyzed it in two ways; campaign promises and up-front vote buying. They propose that when there are two candidates in an election, it emerges as a binary bidding game. They found many equilibria as the strategies of the loser could not be pinned. Campaign promises are always increasing with the competition between candidates.

Another study which again analyzed vote buying behavior is Groseclose and Snyder (2000). They examined political pledges to specific subgroups in the society with just two competing vote buyers (politicians). They proposed that, within a game with two vote buyers, preferred vote buying strategy must be super majority coalitions since there is a threat coming from competition. That means targeting most of the voters is a better strategy than targeting just a subgroup of them under the conditions of competition. One of the pioneering studies on vote buying, Lindbeck et al. (1987) investigated the effects of the balanced budget redistribution policies on votes. Their study is perhaps one of the most explanatory ones in the political theory literature. Their two-party model found that when both politicians are trying to get votes from selfish voters, the redistribution policies would be as closer as they can be.

As explained by the models above, vote buying is a strategy parties can pursue to maximize their votes and/or plurality (Hinich et al., 1972). This is actually a common electoral strategy around the world and a fact from real world elections.

Vote buying exists nearly in every languages; English *vote buying*, Spanish *compra de votos*, French *achat de voix*, or German *Stimmenkauf* (Schaffer et al., 2009). Vote buying can be thought of appearing in the absence of high quality institutions, where democracy is not working, as it should be. That may be the reason why studies on vote buying are generally conducted on countries where there is an important gap between individual income levels and education level is low (Vicente, 2014). Since in most of the systems around world, there is a rule of secret bullets, it is quite hard to detect up-front vote buying. In addition, although it is not mentioned in this study, there is also evidence from real life that vote buying can be observed by the offer of goods to specific subgroups of voters by parties (Finan et al., 2011). However, the easiest and with possibility of dissonance cheapest way for politicians to buy votes is campaign proposals.

2.2.2 Political competition in relation with social preference models

In this study, one of the motivations is investigating the behaviour of politicians in an electoral game design. Following the social preference models and models in political competition theories, we have tried to answer two questions on the behaviour of politicians: will they keep their promises or engage in deception? and will vote buying be a strategy for competition to be in the office?

The mandate theory postulated that the answer of the first question is “Yes, they should”. If they want to be in office after the following elections, they should fulfil their pledge to avoid disappointed voters. Consequently, keeping promises is one of the key factors in politicians’ incentives by means of expectations about future elections. But if

the election is a one-shot game, the mechanism turns into a dictator game without the effects of reputation and repetition.

But, as explained before, even in one-shot decisions, people tend to keep their promises. Corazzini et al. (2014) defined the incentive driving that attitude as *psychological cost of not keeping promises* or *psychological cost of lying*. If we look at psychology scholars, such as Hao et al. (2011) and Hurkens et al. (2006), we see that although people tend to lie to achieve a better economic or social situation, they gain disutility from lying and not keeping their promises. Therefore, except for the reasonable excuses for policy dissonance (time constraint etc.), deception is neither rational according to the mandate theory nor beneficial due to its disutility of psychological character for politicians.

When it comes to vote buying, political theorists generally missed an important linkage between political competition theory and social preferences; reciprocity (Schaffer et al., 2009). In the context of reciprocity, politicians should target voters who are most reciprocal in a society. Reciprocal subjects are assumed to vote for politicians who are kind/fair/honest to them or not to vote for politicians who are unkind/unfair/dishonest to them. Vote buying, in that manner can be considered by voters as kindness of the politicians. Who are the reciprocal voters is a question, which was not defined properly in the previous literature. They are described as well informed, low educated, well organized, ideologically unattached or even as a middle man (Finan et al., 2011). Beside reciprocity, individuals can also react to the behaviour of vote buying in line with their fairness and moral preferences. In this study, by differentiating the ratio of different income groups in the population, we have provided an opportunity to politicians for vote buying. And voters on the other hand, have an opportunity to observe the pledges to other income groups, as in real life elections. In that context, vote buying in our study will provide an analysis of behaviours when moral, ethical concerns and self interest conflict.

2.3. Behaviours of Voters

Perhaps the most frequent political action in citizens' life is voting. And probably the most frequent question in political competition literature is if voting is rational and why people vote? The rational model of voting by Downs (1957) analyzed the voting decision by comparing its costs and benefits. According to the "calculus of voting" model by Downs, a citizen decides to vote if its benefits exceeds its costs. Voting can be considered as any good and voters act as consumers in that model, so just like the basic economic decision theory, they would not consume it unless its expected returns exceed its costs. In his definition of rationality, Downs emphasized the actions of politicians again. Politicians should create a connection with the citizens to plan their activities and to increase their political supports. In his model, voters act rationally as any economic man and pursue their own utility. Within that context, every individual will vote for the politician if they expect he/she provides more benefit to them. When defining self-interest, Downs proposed that there should be room for other related activities in voters' utility. They can derive utility from governmental activities and political incomes but also they can derive positive utility from other sources. With his own words,

"...some citizens would regard their utility income as raised if the government increased taxes upon them in order to distribute free food to starving Chinese".

The narrow self-interest axiom is violated for voters by including pro-social behaviours.

Income is not used with its classical meaning in Downs. When investigating the relationship between government and citizens, it is mentioned that individuals can gain some income from government without even noticing it. Therefore, Downs use the term income (utility) to refer to all the benefits that the citizens get from the government⁷.

⁷ Public goods and services and individuals' utility from benefiting others mentioned in Downs (1957). Since that is not analyzed detailedly, is not placed also in the present study.

When defining the utility functions of voters, he proposed that there should be at least two election periods. The reason behind this is that voters can evaluate their present economic situation but they seek for possible future incomes as well. When we note these election periods by t and $t+I$, while voting in period t , individuals will consider their future income as well as their present income. To compare the political parties, they will consider their proposals and compute their income in $t+I$ in case the incumbent and competing parties win.

To make it more comprehensible, we can note the incumbent party by A and the opponent party by B , and the utility will be derived by U . Therefore the expected utility from both parties in $t+I$ will be

$$E(U_{t+1}^A) - E(U_{t+1}^B).$$

That equation is called *expected party differential* by Downs. If it is positive, the expectation from the incumbent party is higher than the opponent then A will be elected again. If it is negative, expectation from the opponent is higher so voter turnout occurs. If it is zero, he/she does not vote for the incumbent and opposition but abstains.

In that basic model, individuals decide which party to vote by computing the party differential. Even though he leaved a room for other related attitudes in voters' utility function, the model just contains an undefined individual utility derived from politicians. To understand the basic mentality behind Downs' voting model that equation is quite enough but what determines the expected utility income of voters?

Downs proposed that while explaining the strategies of politicians, voters will compare the present benefits and future benefits that they expect to get from both parties. A rational voter should be aware that none of the politicians could keep their promises properly. At least some little percentage of their pledges would stay unfulfilled. Since one of the candidates is already governing, citizens have information about its activities. Consequently, they can predict its future performance by looking at

his/her present activities. But for the opposition party, they only have expectations. In his view, one of the most irrational attitudes for voters is to compare one party's expected future performance and other's present performance. Then, the solution of Downs is to predict the opposition's performance if it would be the incumbent in period t . Of course, this evaluation must be hypothetical.

This classical theory of voting, despite its drawbacks, provides an enlightening approach to voter behaviour. If an individual vote for the opponent and not for the incumbent, this means her/his evaluation about incumbent's performance is negative. If she/he votes for the incumbent politician, we can say that her/his evaluation is positive about his performance. In that approach, elections are *signalling devices* for voters. Their choice signals if the activities of the incumbent party were sufficient or not. And these signals can be commented as voters asking for "*no change*" or "*change*". With their signalling function, elections also show the demand of voters from the opposition politicians. If the opponent is elected once, that means he should, at least to some degree, alter the incumbent's implemented policies, since people voted for *change*. And voters can predict the direction of the change before the elections by observing campaign activities.

Another important aspect of the model of Downs is multiparty elections. When there are more than two candidates, the expected utility from voting is affected by the winning probability of the preferred candidate. Consequently, an individual should decide if her/his vote is decisive or not.

The rational choice models of voting define the utility of voting with its probability of being decisive⁸. If her vote is not decisive, her/his preferred candidate or one of the opponents will win whether she votes or not, the expected utility of voting is nil. In real life, generally there are millions of voters for every election. For that reason,

⁸ The calculus of voting initially introduced by Downs' then expended by Riker et al. (1968)

voting in rational choice models is considered as an irrational act, because probability of being decisive is so low. The cost of voting, on the other hand, can be defined as the registration to the system, going to poll etc. Even though these are very low costs, when comparing with zero utility, the cumulative utility from voting is negative. Unfortunately in real life, contrasting with that model many people vote. To explain that *paradox*, rational choice scholars provide other incentives to vote beside individual utility to make the model more consistent with reality.

One of these incentives was proposed again by Downs, this is supporting democracy. To avoid the collapse of the democracy, people continue voting. Barry (1978) criticized this view by postulating that this amendment cannot justify the theory. Even one ballot cannot salvage the democracy. Therefore, one vote will be ineffective to reach if that is the objective and voting will not be rational. A rational voter is supposed to pursue her/his own self-interest not another motivation increasing the utility of the whole society (Blais, 2000).

Another incentive to explain voting is from Riker et al. (1968): the perception of duty. Voters can perceive voting as a duty and for that ethical reason they feel compelled to vote. We can say that an individual can be satisfied with voting if she/he thinks that it is a duty. However, that reason comes from a context falling out of the domain of the rational model of voting. Although it is sensible, as Blais (2000) proposed, it is useless since it is a motivation contrasting with the mentality behind the model.

When Downs has defined the political rationality, he did not take non-political incentives into account. On the other hand, Ferejohn et al. (1974) analyzed the decision of voting from the view of risk taking and defined a factor as *minimax regret*. According to this study, a voter compares the regret of voting and not voting. That regret comes from the possibility of being decisive somehow. If she/he does not vote and her preferred party lose *by one vote*, how much she/he would suffer from that decision is the regret from not voting. On the other hand, the possibility of not being decisive in case of

voting is the regret from voting. Therefore, this study is considered as a risk taking analysis on voting decision. An important critic to that study is about the possibility of being decisive. Aldrich (1993) criticized this model by postulating that the possibility of being decisive is quite small and almost minuscule in large voter pools and a citizen can see it. Moreover, *minimax regret* behaviour is not consistent with reality. A voter, who calculates the risk of being decisive in case of voting and not voting, should calculate similar risks in every area of life. If the aim is to solve the paradox of voting and make the calculus of voting more consistent with real life, that approach seems useless.

Another explanation that can be considered game theoretical, is provided by Mueller (1989): if the probability of being decisive is so low and every voter is aware of it then most of them would prefer not to vote. The lower the participation rate, the higher the probability of being decisive. Then, individuals can overestimate the probability of being decisive and decide to vote because of that. Although it is not very convincing, as Blais (2000) proposed, not taking overestimating into account may be one of the missing points of the calculus of voting⁹.

Whether they are consistent or not with reality or theory, all the attempts and models explained above are trying to provide some psychological and/or sociological

⁹ These approaches that are trying to justify the calculus of voting generally required to take a broad definition of rationality. However, including these attempts into the calculus of voting leads to the violation of the assumptions of Downs on rationality. Alternatively, there are some other models of voting developed after Downs (Brady et al., 1995, Rosenstone et al., 1993). These models relaxed the assumptions of the calculus of voting by adding some psychological and sociological factors. Brady et al. (1995) proposed that more *free time, money and civic skills* are the resources increasing participation and analyzed voting behaviour mainly based on the costs while the calculus of voting was weighing the costs and benefits. If the cost is not too high, citizens will vote. These resources lower the cost of voting according to Brady et al. (1995). Money is the least relevant one in their model. Especially civic skills reduce the cost of information and communication and as costs are getting lower, the inclination to participate is getting higher. Another alternative model was based on *mobilization* (Rosenstone et al., 1993). The term mobilization is referred to moving toward a group of individuals (family, friend, community etc.) from being solely an individual. People decide to vote because of *social pressure*. They proposed that “*people want to be accepted, valued and liked*”, consequently, they choose voting to participate to a community. This approach puts some psychological motivation behind voting as the *cost of not voting*. It is very similar to the duty approach of Riker et al. (1968), however it appended an interest motivation. If a person is interested in politics, she/he will gain more satisfaction from voting and will regret not having voted more. Although it is consistent with intuition, this model is very hard to accept theoretically.

background to voting behaviour. As Brennan and Hamlin (2000) proposed, the extreme homo economicus is not properly consistent with real life economic agents. On the other hand individual behaviour cannot be explained by fully other related ethical and moral motivations. There should be some definition between these extreme points. Therefore, Brennan and Hamlin (2000) neither rejects the effect of morality nor the consistency of homo economicus and proposes that when we consider two types of voting, the instrumental and the expressive voting, the expressive voting is more relevant with real life. The instrumental voting approach proposes that there should be an objective behind voting and the incentive of voting is to reach that goal. However as explained, according to the rational choice theory and its most important component, the probability of being decisive, achieving that goal is almost impossible. But the expressive voting theory proposes that people vote to express their political preferences (Brennan and Lomasky, 1993).

If we consider the incentives just from being a human, as explained in the context of social preferences theories, the incentive to vote can be driven by the desire to increase social benefits. To see that pro-social preferences prevail, American Citizen Participation Survey (1990) is a classical study. They asked many questions about individual instrumental and expressive preferences on voting and the results show that many of the subjects vote for social benefits (see Table 1). According to the survey, half of the participants are motivated by at least one social problem, 9% of them by family effects, 46% of them vote for the benefit of their community, 45% vote for national benefits.

Table 2: Self-Reported Reasons to Vote (Source: Mackie (2007), ICPSR Study No. 6635, (1990))

Reasons People Give Us for Voting	% Not Very Important	% Somewhat Important	% Very Important
<i>Direct Instrumental</i>			
Chance to Make Community or Nation a Better Place to Live	3	14	83
Chance to Influence Public Policy	10	26	65
Further Party Goals	35	30	35
Get Help from Official on Family Problem	79	14	8
<i>Moral</i>			
My Duty as a Citizen	4	18	78
Do My Share	14	41	45
<i>Indirect Instrumental</i>			
Recognition from People I Respect	71	18	11
Didn't Want to Say No to Someone Who Asked	88	9	3
<i>Intrinsic</i>			
Exciting to vote	63	23	14

Table 2 suggests that people vote for many reasons explained by the theories and models and they mostly consider social welfare. According to that survey most of the people are motivated by social benefits.

Referring to Downs, the activities of incumbent politicians also affect voting behaviour and mostly, income distribution is not made directly, but via taxes, public goods and services. In that context, investigating the effects of distribution and pledges on voting is very important. Filer, Kenny and Morton (1993) investigated the association between income, voting and voter turnouts. They tested their model with data from USA. Their model predicted that voter turnout is in relation with both relative and absolute income. The relative income is an important factor in voting because the expected result is -as Abrams and Settle (1978) proposed- that when the relative income does not change significantly, turnout will decrease.

This is considered to be due to subjects' care about status (Duesenbery, 1949). Horn (2011), on the other hand, investigated income inequality and voter turnout for European countries. This study has three hypotheses from previous literature; i. income inequality and voter turnouts are negatively related, ii. turnout in low income is lower than high income (in high inequality countries), iii. inequality decreases by government intervention and turnout increases by social norms. The results show that the relationship between Gini coefficient, poverty and voter turnout was neither positive nor negative. Although redistributive factors have some effects on voting, these were not very strong in this study. But as the income gap between high income and middle income group increases, voter turnout decreases. On the other hand while that gap is increasing between low and middle income groups, voter turnout is increasing. Both of these studies show the effects of income redistribution on voting decision.

Beside these studies investigating individual absolute and relative income, Goodin et al. (1975) postulated that ethical concerns and desire to fairness in a society can be decisive when voting as well. The fairness preference is explained by Rawls (1971, 1993) in a very comprehensible way. According to Rawls, citizens should demand equal distribution for every member of the society because they are same about their basic rights, liberties and abilities. Two issues that can make people accept unequal distributions are; being equal to the open positions and offices opportunities, benefiting the least advantaged members of society (veil of ignorance). As originally listed in Rawls (1971);

“1. Each person has an equal claim to a fully adequate scheme of equal basic rights and liberties, which scheme is compatible with the same scheme for all; and in this scheme the equal political liberties, and only those liberties, are to be guaranteed their fair value.

2. Social and economic inequalities are to satisfy two conditions: (a) They are to be attached to positions and offices open to all under conditions of fair equality of

opportunity; and (b), they are to be to the greatest benefit of the least advantaged members of society.”

Rawls’ theory proposed that under strict impartiality subjects would always prefer to provide for the least well off in a society. Since behind the veil of ignorance, they do not know in what income group they will be the next period, they should take the worst possibility into account and try to benefit the least advantaged groups.

In real life, in addition to income distribution, the fulfilment of pledges by politicians is one important factor affecting the decision of voters according to theoretical explanations mentioned above. Thomson (2011)¹⁰ investigated the evaluation of citizens on whether politicians are keeping their promises and tried to disentangle the effects of subjective factors i.e. partisanship and absolute performance of government. For this purpose, the effects of subjective factors are included in this study with the aim to solely analyze the perception of pledge fulfilment by citizens. This study claims that subjective factors make people evaluate more negatively. The findings propose that citizens overestimate the fulfilment ratio if they believe promises are kept. For the pledges that they believed to be unfulfilled, citizens generally underestimated that ratio. Naurin et al. (2015) included partisan effect in their investigation conducted on Swedish subjects and found that partisanship leads to an optimistic evaluation on the pledge fulfilment. Broken pledges on the other hand, affect more than fulfilled ones. Citizens punish governments when they break their pledges more than they reward them in the case of fulfilment.

Theoretical approach and real evidence mentioned above show that voters pursue pro-social objectives as well as their self-interested goals while they are voting. Also income distribution policies and pledge fulfilment affect voting decision. Both subjects’ absolute and relative income and national income are effective on voting. Individuals, when evaluating incumbents, take pledge fulfilment into account.

¹⁰ In this study, pledges of politicians in 2007 Irish elections clustered into 4 main titles as; education, health care, tax and security.

Voting, according to the self-interest axiom, is not a rational behaviour since the possibility of being decisive and reaching a specific objective is very low. But as mentioned before, many people vote in every part of the world. This means that their motivation to vote may not be being decisive.

Departures from self-interest and classical rationality have always been a topic of interest in economic and political competition theory. This chapter aims to provide an insight to the explanations of political theorists about the *paradox of voting*. In the beginning of the chapter, we mentioned social preference models and their explanations to that departure. By combining both approaches, one can conclude that the utility of voters is not just driven by their own interest. As political studies propose and show, people also care about social welfare, fairness, income redistribution and dissonance as they are voting. As social preference models propose, inequality aversion and reciprocity are also components of individual expected utility function as well as their self-interest. Actually, these studies support the predictions of social preference models. Reciprocity works in real life when voters evaluate the incumbent politicians' performance and decide who to vote in the next elections (Thomson, 2011; Naurin et al., 2015). And inequality aversion also works in real life as Horn (2011) shows, unequal distribution leads to voter turnout.

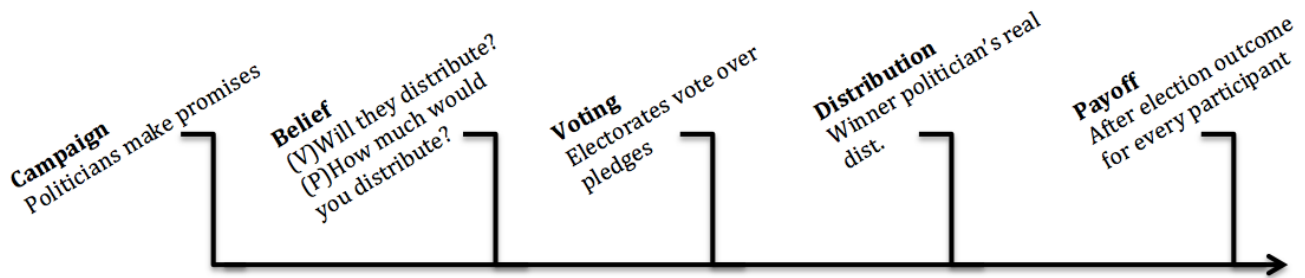
CHAPTER 3: EXPERIMENTAL EVIDENCE AND DESIGN

The first two chapters have provided a detailed insight on the political behaviours by using social preference models and political competition theory. Controversial arguments from formal theory and evidence from real life decisions show that subjects both as politicians and voters may act confor with either the classical self interest theory or prediction of social preference models.

3.2. Experimental Design

This experiment examines how individuals make distribution pledges when they are candidate in a political election and how they respond as a voter in case of differentiation of income. Participants are divided into groups of 7 and randomly assigned to one of the 2 roles: politician and voter. Each group consist of 2 politicians who are competing in the elections, and 5 voters who are randomly assigned one of the three initial income levels: low (L), middle (M) and high (H). The game is a simple electoral competition game. Since voting is compulsory in this design, there is no possibility to face a tie and a politician can win the elections with 60% (3 out of 5), 80% (4 out of 5) or 100% (5) of the votes. It has five periods; Campaign, Belief, Voting, Distribution, Payoff (see Figure 1). First, two politicians make their promises on income distribution. Second, voters and politicians are asked hypothetical questions. We asked voters if they believe the winner of the elections will fulfil his/her pledge or not and politicians how much they would distribute in total if they win the elections with three possible vote share, 60%-80%-100%. Third, voters decide which candidate to vote regarding their pledges. And subsequent to voting decisions, the winner announces his/her distribution. Finally, subjects are shown their after-election income.

Figure 1: Timeline of stages

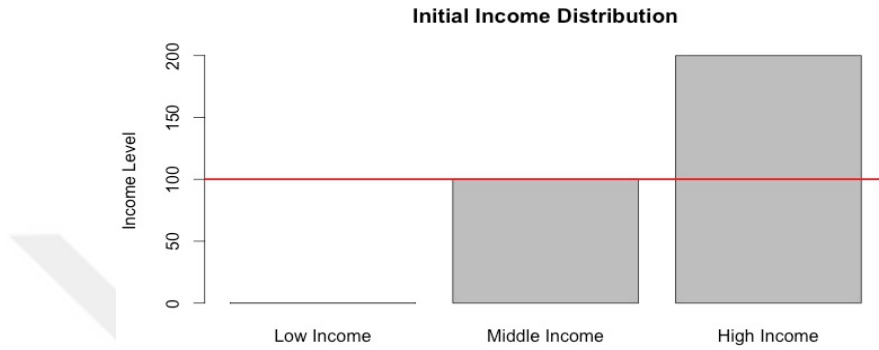


The experiment consists of 3 treatments and 3 stages for each. Treatments and stages are differentiated by the ratio of income groups and chance to reveal pledges to other income groups respectively. Those manipulations during experiment will be explained separately in the following section.

At the beginning of all treatments, subjects are randomly assigned to roles and initial incomes are assigned to the voters corresponding to the income group they belong as 0, 100, 200 units from low to high income. Participants are informed that there is a subsistence consumption level (like a social minimum point¹¹), which are 100 units (see Figure 2).

¹¹ Adding a social minimum point enables us to analyze if participants are sensitive to *difference principle of justice*, when they face a pledge not maximizing their own utility but benefits “the least well-off” subjects.

Figure 2: Initial Income Distribution and Subsistence Consumption



After elections, voters are provided an extra income, a *political income* in the game that is what the winner of the election decides to distribute. Therefore, after election income for the voters is “*initial income+political income-subsistence consumption level*”.

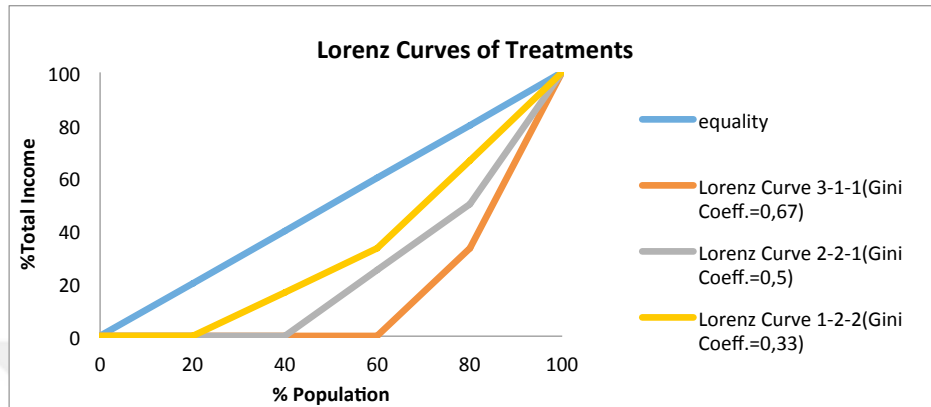
For the politicians, there is also the subsistence consumption subtracted from their final income. Their initial income level is 0 and if they win in the elections, they receive a perk from office that is equal to 150 units with power to distribute a public budget of 500 units. The main tool for campaigning is the income distribution pledge that politicians make over the public budget. The winner asked to make a real distribution decision after the elections. The incumbent politician may decide not to distribute the public budget completely, thus adding this undistributed portion to this income. The politician, who loses the elections, earns nothing but still has to pay for the subsistence consumption so this politician ends up in the same economic situation as the low income group. The final income of the politicians will be “*perk+(public budget-total distribution)-subsistence consumption level*” if he/she wins and “*–subsistence consumption level*” if he/she loses.

3.2.1. Experimental Manipulations

Through all the treatments, the main difference is the ratio of income groups (see Figure 3). In the first treatment, 3 out of 5 voters assigned into low income group and 1 voter into both middle and high income groups. That means, 60% of the voters have low income (0 initial income) and if they receive a political income below 100, they will end up with a negative income after the election. For this treatment the ratio of middle income group and high income group is 20%. In this treatment, by allocating relatively higher ratio of subjects to one of the income groups, we aim at observing if politicians pursue strategies to please the majority while making pledges. If the politicians would like to win the majority of the votes, following the median voter strategy, they have to please the low income group. In the first treatment, promising to the low income group which is the majority can be explained by both a fair attitude and vote maximizing strategy.

By changing the allocation of income groups in other treatments, we aim to see which one of these two motivations is the dominant one. In the 2nd treatment, the ratios of different income groups are 40%, 40% and 20% from low income to high income. And in the 3rd treatment, these are 20%, 40% and 40%. These two treatments are basically same except for pivotal voters.

Figure 3: Comparable Lorenz Curves and Gini Coefficients for Treatments



For the 2nd treatment the subject with high income and for the 3rd the one with low income is pivotal. That kind of manipulation enables us to investigate whether the politicians respond to changes in the pivotal income group.

All treatments as explained above include 3 stages that we will call from now on as Individual Outcome, Revealing the News and Dictator Game. Through all stages, campaign, election and distribution periods are conducted and manipulation was implemented in first and last periods.

In the Individual Outcome stage, voters are shown campaign pledges and distribution policies related only to their own income group (and indirectly the income group they belong). The expected strategy of voters in this stage is to vote for the politician who makes the highest promise of income distribution during the campaign so as to maximize their own utility consistent with the rational theory of voting.

Electorates are provided the opportunity to see pledges and distribution for other income groups in Revealing the News stage. In the Individual Income Stage promises

made to other income groups were unknown by the voters. They only know the remaining budget that may be promised to other income groups.

In this stage, the only cost for resolving this uncertainty is clicking “*Reveal The News!*” button before voting and seeing the distribution of income that the politicians are promising. By giving voters a chance to see the election news, we aim to see if they care about the future income of other income groups as they are deciding to support a candidate or selfishness prevails.

The last stage “Dictator Game” is the last election simulation. As there is no re-election or punishment concern, precisely this stage is a pure dictator game. Without the fear of weeding out, politicians may distribute the budget, as they want. In line with classical rational theories of both economics and politics, in this stage politicians may not keep their promises since there is no mandate.

Table 3: Stages and Manipulations

	<i>Campaign</i>	<i>Election</i>	<i>Distribution</i>
<i>Individual Outcome</i>	Shown individual pledges	Majority Rule (%60-80-100)	Shown individual policy outcomes
<i>Revealing the News</i>	Optional costless information of pledges to others	No manipulation	Optional costless information of policy outcomes to others
<i>Dictator Game</i>	All pledges are shown	No manipulation	All policy outcomes are shown

Since the experiment is declared as a political election game, one of the issues that we concerned a lot was the possible effects of the individuals’ real life preferences and perceptions as voters during the game. In that case, our manipulations would not be effective and internal validity of the experiment would be questionable.

To test the all the effects of the manipulations we needed them to be influenced just variables in the game design. To test that, we asked voters during the game a hypothetical question; “Do you think the winner will distribute whatever he proposed after election?”.

One of the questions in the ending questionnaire was about their real life beliefs; “Are politicians reliable?”. By comparing the answers to there two questions we tried to evaluate if their behaviors were driven by the experimental manipulations or the *real life effects*. Beside demographic questions, we had questions from WVS (World Value Survey) about subjects’ happiness on political decisions and life. Although it is not the object of that study, there is evidence in the literature that happiness influence individuals’ voting decisions and distribution preferences. Morawetz et al. (1977) investigated the relationship between self-reported happiness and income distribution and found that if the income distribution is more unequal, individual happiness is lower. Their postulation was shaped on the argument that individual utilities are influenced negatively from unequal distribution because income distribution is a public good.

3.2.3. The Experiment

The experiment was conducted to 70 participants from Istanbul University and Galatasaray University. Subjects were undergraduate students from Faculty of Economics and Faculty of Law. Before starting the experiment, instructions were explained written and verbally¹². Since, the experiment was conducted in regular computer laboratories, we deliberately placed participants with space between them to be sure that they did not see each other’s screens. In this way, we made sure to mitigate reputation effect on subjects’ behaviour. All the details about design were explained to

¹² See Appendix for Instructions Table for participants

subjects before the game, they were aware of the conditions. We conducted 5 sessions in total with 7 to 28 people.

Subjects were paid. Through the game, subjects' types changed. As there were 7 people in each group and 6 of them could be politicians, 1 of them was always worse off about her score. To eliminate the disadvantage of income group allocation, we took their voter payoffs (income they earned as voters) as the absolute value of the difference between their first income and last income.

And for voter income accumulation, 1 TRY=200 ECU. But as calculating their politician payoffs that ratio was 1/300. Each participant was paid 7 TRY show up fee and average payoff of the game was 17 TRY.

CHAPTER 4: RESULTS

In the third chapter all the details of the experimental design and procedures of conduction were explained. And previous chapters provided theoretical and real life explanations of possible individual behaviours. In our game, subjects acted as politicians and voters. We expected them to act in two ways, self-interested or with other related concerns. From the manipulations that have been explained in the previous chapter, they have chances to act fair as well as self-interested. This section will analyze the results of our experiment, first for politicians and then voters.

4.1. Findings for Politicians

As we are analyzing the behaviour of politicians, we first have a look at their strategies when making promises before elections. As rational politicians, we expect them to try to maximize their political support. To achieve this, we clustered their possible strategies into three classes: majority strategy, egalitarian distribution strategy and income group distorting strategies.

Majority strategy is the case where politicians try to maximize their vote by promising more to the voters in the income group that is the most populated. For the first treatment (3-1-1), obviously low-income group is the majority with the ratio of 60%. In the second and third treatments since the ratio of low and middle, middle and high income groups is the same respectively, we also analyzed which income group politicians targeted if they pursued the majority strategy. While categorizing these strategies, we have calculated their average pledges and we define the strategy as a majority strategy if the pledge for the most populated income group is higher than the average pledge.

Egalitarian strategy is the case where the politician makes a pledge to distribute the total budget to the voters equally. And **income group distorting strategy** is detected if the pledge changed the income groups of subjects.

Table 4 shows the ratio of politicians who pursued each strategy in the first treatment (3-1-1). Three of the five voters (60%) were in the low-income group in this treatment. As we can see for the three stages of this treatment, on average 53% of the candidates followed majority strategy in the campaign period. It can be seen from the table that egalitarian strategy and income group distortion was very low in this treatment. And subjects who did not followed majority strategy, made promises to benefit more middle or high income group.

Since we had 10 groups (70 subjects), there were 20 candidates for each election and 10 winners consequently. In three stages of this treatment, 70%, 50% and 70% of the winners were majority policy followers. Even though the ratio of the politicians who pursued majority strategy was not so high, most of the winners in this treatment (except for the second stage) made promises to please the majority.

The next question should be if they fulfilled these promises or not. For the first two stages, all of the promises to targeted voters were kept. But in the dictator game stage, the ratio of fulfilment decreased to 57%. These results show that our manipulation in the third stage is in accordance with the rationality requirements and even though the politicians fulfilled their pledges in the first two stages, they engaged in deception to their target voters in the dictator stage.

Another result is provided by the evaluation of the strategies of the politicians based on the income gap between highest income and lowest income that they proposed. 85% (25/30) of the winners proposed an income policy with an income gap lower than the one in the proposal of the opponent.

That ratio was 60% for the second stage and 90% in the third stage. Since voters could see the pledges to other income groups in these last two stages, this result shows us that the voters cared about the income of other voters. However, when elected once, 3 of the politicians in the 2nd stage and 4 of them in 3rd stage made policy decisions that caused a higher gap than their pledge.

Table 4: Strategies of Politicians in 3-1-1 Treatment

<i>Treatment 3-1-1</i>	Majority	Egalitarian	Income Group Distortion	Pledge Fulfilment to Target IG
Individual Outcome	0.55	0.15	0,15	1
Optional News	0.50	0.05	0,1	1
Dictator Game	0.55	0	0	0.57
Average	0.53	0.06	0.08	0.85

Table 5 exhibits the strategies of politicians in the second treatment. Income group allocation has been changed for the first time during the game in this treatment. And the ratios are 40%, 40% and 20% for low, middle and high-income groups respectively. The majority strategy could target both low and middle-income groups. As we evaluated that, we calculated if the politicians promised to one of these income groups more than his average pledge. In this treatment, the average ratio of the majority pleasing pledges was 60%. One important point here is, in the first stage that ratio was 55%. It increased to 75% in the second stage (in which voters can see the pledges to others) and again was 55% in the dictator game stage. That can simply be understood as while 4 of the candidates promising more to the high-income group (or making egalitarian promises) in the first stage, they started to follow strategies to take the votes of low or middle-income group.

Since there were two income groups with the same ratio among voters in this treatment, we analyzed which of them the majority strategy following politicians targeted. While generally low income group was targeted, some of the politicians targeted middle income group especially in the second stage, they were making promises more to middle income group as can be seen in Table 5. These politicians, who did not pursue the majority strategy in the first stage but pursued in second stage, were targeting middle-income group.

7 of the 11 politicians who pursued the majority strategy were elected in the first stage. Just one of these targeted middle-income group in the campaign period. 5 of the winners (71%) fulfilled their pledge to their target group. 9 of the 15 and 8 of the 11 majority pleasing politicians were elected in Optional News stage. 6 of them targeted low income group and after being elected, 3 politicians gave less than their pledge. The other 3 politicians targeted middle-income group and 2 of them distributed less than they proposed. In the dictator game stage, 8 majority strategy followers were elected. And only 2 of them kept their promises to every voter. 4 of them distributed less than they proposed and 2 of them gave less to their target voters (low income group) by giving others more than their pledges. When we introduced two income groups with same ratio overall dissonance increased.

Table 5: Strategies of Politicians in 2-2-1 Treatment

<i>Treatment 2-2-1</i>	Majority	Egalitarian	Income Group Distortion	Pledge Fulfilment to Target IG
Individual Outcome	0.55	0.2	0	0.71
Optional News	0.75	0.05	0.15	0.44
Dictator Game	0.55	0.2	0.15	0.25
Average	0.61	0.15	0.10	0.46

Table 6 shows the strategies of politicians in the third treatment. In this treatment, ratios of income groups were 20%, 40% and 40% from low to high.

As we can see, the ratio of the majority strategy followers is less than the other two treatments. Interestingly, in this treatment most of the majority strategies targeted high income group. On the other hand, the ratio of distortionary (on income groups) pledges is obviously higher than the other two treatments. These distortionary pledges generally proposed to even the income of the low and middle-income group.

In the first stage, 4 of the winners pursued the majority strategy. 3 of them targeted voters in the high income group and 2 of them did not fulfilled their pledges, they distributed less. 1 of the winners who has targeted the high-income group distributed more than the pledge to all voters. 1 of the winners targeted middle-income group and fulfilled this pledge to all voters. In the first stage, 4 of the winners proposed distortionary distributions and once elected all of them kept their promises. By giving more to low-income group, they equalized after-election incomes of the low-income group and middle-income group, just 1 of the policy distributions has lead the low-income group to have more outcome than middle-income group. In the second stage, 3 majority-pleasing politicians were elected. After election, one of them fulfilled the pledge for all of the voters; other two have distributed less than they promised. 3 of the winners proposed a distortionary distribution before the election and their policy distribution was also consistent with their pledge. In the dictator game stage, 3 of the 8 candidates proposing a majority strategy won. 2 of the candidates with the winner majority pleasing strategy fulfilled their pledge but one of them distributed more than the pledge to the targeted income group. The other politician, who targeted high-income group, after election distributed to high-income group less than his pledge and to low income group higher than his pledge.

While comparing strategies of the politicians for the treatments, the most obvious differentiation is in the 1-2-2 treatment. In this stage, politicians -whether pursue majority or distortionary strategies- have tried to benefit the low income group generally. Although the majority strategy pledges targeted generally the high income group, pledge fulfilment to them was also lower than the other treatments.

But majority strategy pledges to middle income group have been fulfilled more than the ones to high income group. The ratio of the distortionary pledges and policy distributions were also higher than the other treatments. Distortionary pledges were generally fulfilled (88% on average). These behaviours in the last treatment show that politicians in the game generally tried to increase the social welfare by distributing to the low income group more.

Table 6: Strategies of Politicians in 1-2-2 Treatment

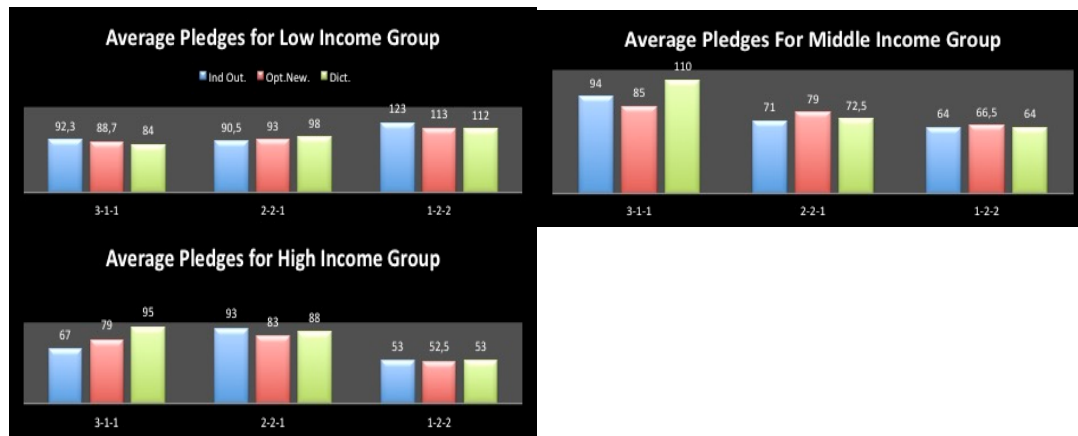
<i>Treatment 1-2-2</i>	Majority	Egalitarian	Income Group Distortion	Pledge Fulfilment to Target IG	Distortionary Pledge Fulfilment
Individual Outcome	0.25	0.05	0.45	0.50	1
Optional News	0.35	0.1	0.3	0.33	1
Dictator Game	0.4	0.1	0.3	0.66	0.66
Average	0.33	0.08	0.35	0.49	0.88

In the 1st treatment (3-1-1), the pledge fulfilment to the targeted income group is quite higher than the other treatments. That result is also consistent with the intuition and theory. As their targeted group has a higher ratio (60%) than other treatments, dissonance would be more effective. To win the elections, especially in the first 2 stages, they had to keep their promises to low-income group since losing their votes meant losing elections. It can be said as the risk of losing increases pledge fulfilment to the majority also increases. In the dictator game stage of the 1st treatment, fulfilling ratio of the pledges to targeted income group decreased to 57%. That actually shows that, as we predicted, in the dictator game stage they gave up persuading majority of voters and behaved for their self-interest. For the 2nd treatment, the ratio of fulfilling pledges to the targeted income group was also lower in the dictator game stage than individual income and optional news stages.

Beside the analysis of strategies, the differentiation of pledges between treatments and stages is also very important to see how politicians behaved. Figure 4 exhibits the average pledges to income groups in treatments and in every stage. That can be seen the average pledges for income groups were higher in the treatments, which they are pivotal. As competition increases in the game, politicians tried to get the vote of the pivotal voters. Both for the middle income and high-income group, pledges were higher than the average in the dictator game stage of the 3-1-1 treatment.

Wilcoxon two-tailed test (Mann Whitney U) applied to these differentiations between stages for the pledges to high and middle income groups¹³. Although results were insignificant for all of the pledge differentiations between stages, as can be seen in the figure, especially for the 1st treatment these changes showed us politicians tried to get votes from pivotal voters.

Figure 4: Average Pledges to Income Groups

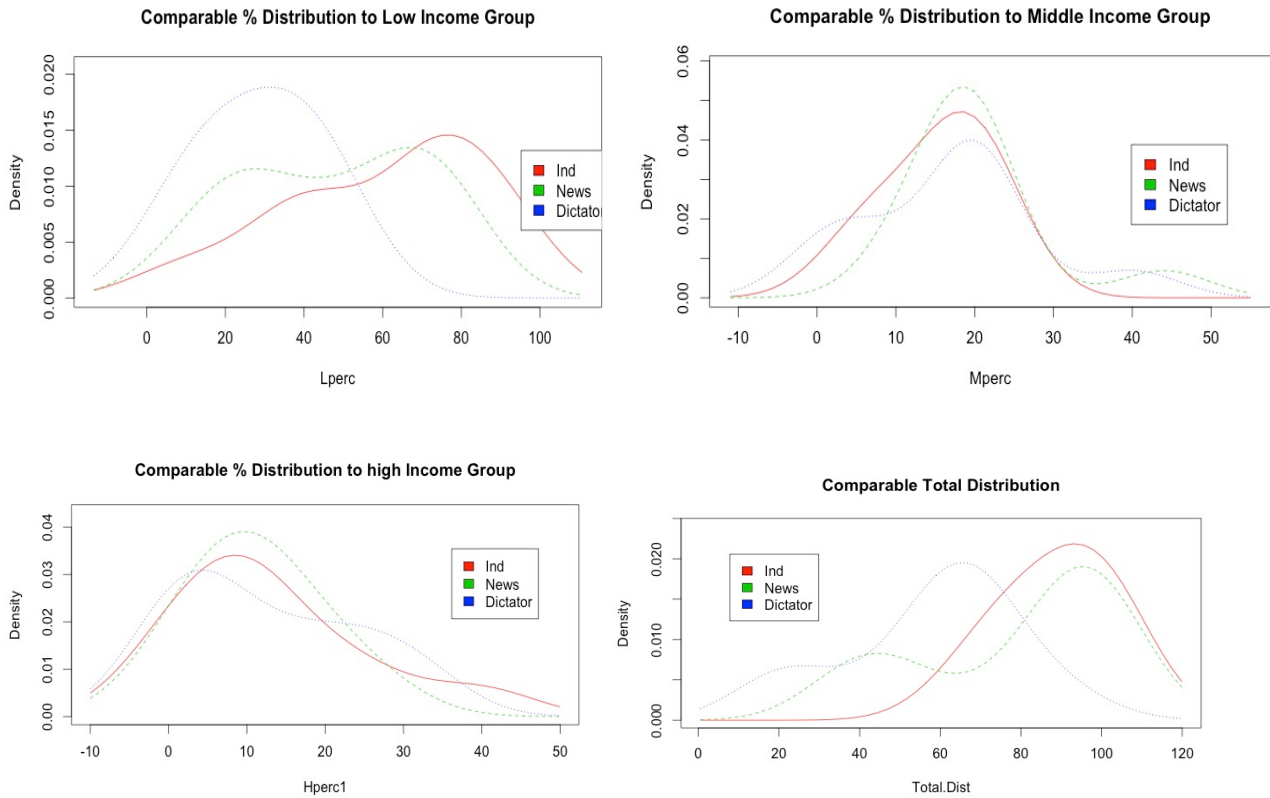


The changes in policy distributions were consistent with the pledges. Figure 5 shows the policy distributions with Kernel density estimation (epanechnikov) in the first treatment. For the first treatment, especially can be seen in the graph for low income group, in the dictator stage the ratio of the distribution and its density decreased.

¹³ $p = 0.09$ for pledges to middle income and $p = 0.12$ for pledges to high income

Although that change is not significant for high and middle income groups, it can be seen that the percentage of the distribution is lower in the 3rd stage, and for high income group the distribution is left skewed. That means, it tends to get lower. However still, the ratio of total distribution, even for the dictator game stage was quite high (81% on average).

Figure 5: Kernel Density Estimations for Policy Distributions

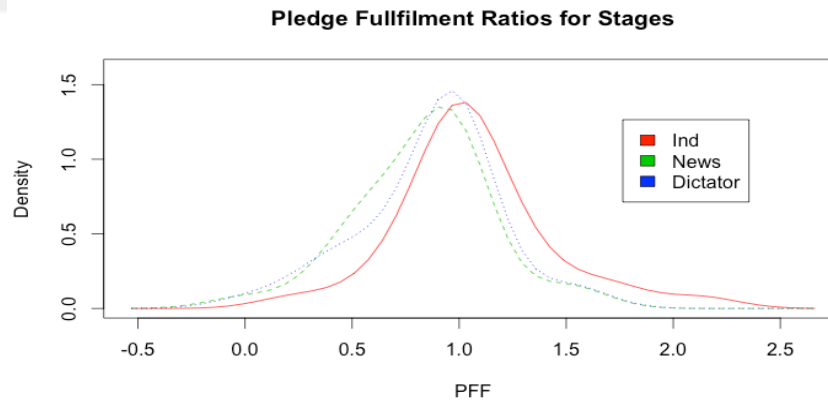


In our experiment income group ratios were changing between treatments. The aim of this differentiation was to investigate if politicians pledge and distribute to buy votes or just to increase social welfare. When we analyzed distributions by treatments (see Figure 4), distribution to income groups was higher when they are in the majority. It is obvious from the results about pledges and distributions, politicians pledged the pivotal voters more to get their vote and they made policy distributions to give more to the majority. In the 2nd treatment, even though the ratios of low income and middle income

groups are the same, politicians preferred to distribute to low income. But in the 3rd treatment when the ratios of the middle income and the high income are density of distributions to both income groups also nearly same. Therefore, it can be concluded that politicians' were sensitive to the group with the lowest initial income.

Corazzini et al. (2014) proposed that the ratio of the distribution and the approval rate were positively related. And they explained that relation as the responsibility of satisfying expectations. When we analyzed our data, the relation between total distributions, ratio of pledge fulfillment and approval rate was insignificant.¹⁴ With the cost of lying assumption, the fulfillment ratio is expected to increase by votes but it was not consistent with our data.

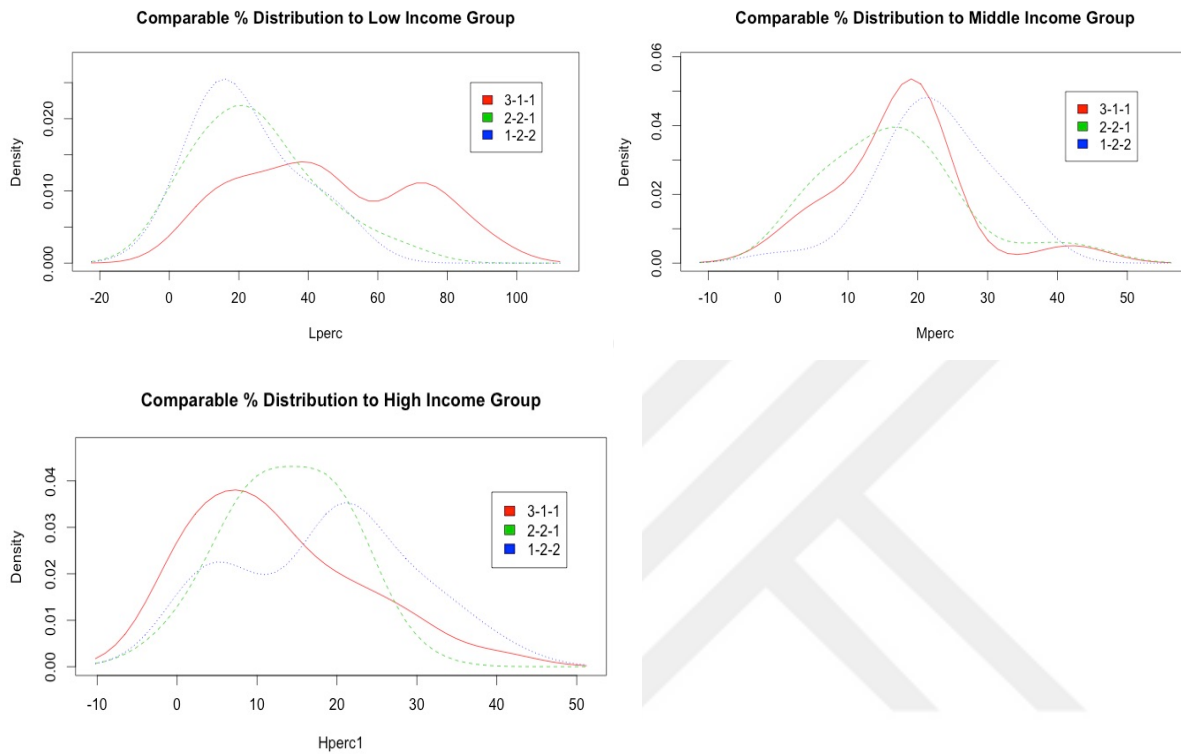
Figure 6: Pledge Fulfilment by Stages



We analyzed the relation between pledge fulfillment ratio and stages. Kernel density estimation is shown in Figure 5. Even though pledges and distributions to low income groups differentiated, pledge fulfillment ratio was almost same for all of the stages. The average fulfillment ratio was 92% through the game and that ratio was 88% for dictator game stages.

¹⁴ OLS was applied but the results were insignificant (Coeff. = -.0042004, p= 0.093)

Figure 7: Kernel density Estimations of Distributions-Treatments



After analyzing the data of the strategies of subjects, we have investigated the relation between their answers to the ending questionnaire and their strategies. First, we wanted to estimate the distribution by approval rate, gender, trust to politicians and subjects evaluation on the real income distribution by using a simple OLS regression. Results are provided in Table 5.

Table 7: Results of the OLS Estimation

Source	SS	df	MS	Number of obs	=	90
Model	128136.451	4	32034.1129	F(4, 85)	=	2.28
Residual	1194481.31	85	14052.7213	Prob > F	=	0.0673
				R-squared	=	0.0969
				Adj R-squared	=	0.0544
Total	1322617.76	89	14860.8738	Root MSE	=	118.54

TotalDistnum	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
AppRate	-1.028645	.8916419	-1.15	0.252	-2.801468	.744178
Gender	67.60417	26.08335	2.59	0.011	15.74349	119.4649
PolTrust	18.96723	52.74332	0.36	0.720	-85.90063	123.8351
rdist	-.6858519	4.475413	-0.15	0.879	-9.584172	8.212469
_cons	374.0591	69.13975	5.41	0.000	236.5907	511.5274

The overall model was significant at 90% significance level. The only significant variable was gender¹⁵. This shows that when comparing their total distributions (that also shows the part of the pie they take for themselves), being female has an increasing effect on total distribution decisions. And in other words, being female lowered the part of the budget politicians kept for themselves. Approval rate, trust to politicians and real distribution preferences did not influence the total distribution significantly.

We applied multinomial logistic regression to estimate the determinants of the politicians' distribution preferences based on income groups. We created a variable named "DistType" to describe targeted income groups of the politicians' policy distributions. As we can see in Figure 5, 71 of the 90 distribution proposals targeted one of the income groups. But when we tried to explain the determinants of distribution types by approval rate, gender and total distribution results were insignificant both for the whole experiment and treatments separately.

¹⁵ 0.95 significance level.

Table 8: Distribution to Specific Income Groups

DistType	Freq.	Percent	Cum.
high	14	19.72	19.72
low	50	70.42	90.14
mid	7	9.86	100.00
Total	71	100.00	

For the politicians, first, we analyzed the strategies they pursued in each treatment and it is shown in the figures that, by pledging more they tried to get votes from the pivotal voters of each treatment. And as competition increases, the pledges increased as well. That situation can be seen clearly in Figure 1, the average pledges to high and middle income groups were the highest ones for the last stage of the 3-1-1 treatment. As we have showed, especially when the ratio of low income group is relatively high, dictator game manipulation worked and the pledge fulfillment rate decreased. But for the other 2 treatments there was no significant differentiation for the pledge fulfillment ratios. Although most of the differentiation was statistically insignificant, we observed that politicians behaved strategically through stages and treatments to maximize their support. As mentioned before, we did not find any significant relation between the approval rate and pledge fulfillment unlike Corazzini et al. (2014).

4.2. Findings for Voters

In this experiment, we have tried to analyze voters' behaviors in the context of social preferences and political competition theory. The first manipulation they faced was the chance of seeing the pledges for other income groups. In the individual outcome stages of each treatment, voters are only provided with the individual pledges and distribution policies. In the second treatment, a button is added to the interface to provide them an opportunity to see the pledges to other income groups beside their owns. In other words, they were provided a chance to increase transparency. As Dana et al. (2007) found, decreasing transparency creates a *wiggle room* for subjects and increasing transparency increases psychological cost of being self-interested.

Their willingness to see the pledges and proposals to others is perceived as an indicator of their sensitivity to other people's expectation and outcome. If they click the button, we can say that they care about the status of others in the society. In the second stages of all treatments 94% of the voters revealed the pledges before the elections by clicking that button. And after elections 80% of the voters preferred to see the real distribution. We may say that there is guilt involved in this decrease. They wanted to compare their expectation with others but when the real distribution is revealed, they were not as willing to see the other's results.

With the existence of revelation tool, there were 3 possible behaviors for voters; they could choose the **fairest**¹⁶ allocations, after first stage they might react to the dishonest and/or unfair politicians by **reciprocal punishment** or they can act **self-interested** by choosing the pledges maximizing their own income. We have analyzed the decisions of voters by defining their behavior into these three titles.

Since it is quite arbitrary to disentangle these motivations, when defining the behaviors, multiple motivations were also considered. For example, a voter can act self interestedly but also that choice may be the fairest one. The ratio of fair choices was calculated over the votes of high and low-income groups as mentioned above.

The measure of fairness was choosing the politician who was more benevolent to the least well-off subjects (low income group) in the society. For measuring this, we did not take the subjects in low-income group into account since most of their decisions would be counted as fair. We analyzed voters' behaviors for the 2nd and 3rd stages of every treatment. Most of the subjects revealed the pledges in the 2nd stages. With that manipulation, we see that the overall rate of self-interested voting decreased in the last

¹⁶ When defining fair, we used the Rawlsian context, fairness benefits the least well off subjects.

two stages of treatments. This shows us that people really cared about the status of others in the community. 94% of them wanted to know what politicians proposed for others and 80% of them preferred to see what others earned after elections. We can also deduce that this revelation has comparison purposes because they did not necessarily care about what others get, they wanted to make an evaluation of their position. In Charness et al. (2002), the most followed behavior was social welfare. However, in our experiment participants voted mostly self-interested. Although the ratio was not high as Charness et al. (2002), 50% of the high and middle income voters voted in a way to increase the welfare of the low income group i.e. they have chosen the proposals giving higher revenues to the low income group.

The ratio of punishment is measured by the share of the voters who did not select the politician who did not keep his /her promise in the previous elections even when this politician offered higher revenues than the other politician. This ratio was low during the experiment. Less than half of the voters did not select the politicians who did not keep their promises.

We have provided a percentage for self-interested behavior. This percentage is calculated by the number of voters choosing the politician making a higher offer of revenue to his/her income group than the opponent. We can see that almost all voters have a self-interested attitude when they do not know the pledge to other income groups. This is a normal attitude. However, when we look at the second stage, we see a sharp decrease, this may be due to the punishment effect as well. Even though the politician offers less, the opponent might have not kept his/her promise in the previous elections. We cannot say that they were fair or punishing with the same emphasis.

We see that only half of the voters are fair and less than half punishes the dishonest behavior.

Table 9: Behaviors of Voters

<i>Behaviour</i>	Self Interest	Fair	Punishment
Individual Outcome	94% Total Obs: 150	-	-
Optional News	54% Total Obs: 150	50% Total Obs.=90	36%
Dictator Game	79% Total Obs: 150	50%	36%

While investigating the incentives behind those behaviors, we have also applied to the logistic regression model. Individual behaviors might change by gender or trust. We have used the data form the questionnaire at the end of the experiment to explain the differences between voting behaviors. Firstly, the type of the voters (as the income groups they belong) and even their previous types have no significant effect on their voting behaviors¹⁷.

For the fairness, the results are provided in Table 10. We have analyzed the effects of the factors separately. Gender and self reported measure of trust had significant effects on fair voting. Interestingly, as can be seen in the previous title on politicians' behavior, the effect of gender was positive. We have defined a dummy for gender (female 1 and male 0). We can interpret the results as: female participants were acting in a fairer manner than male participants when they were acting as politicians. However as voters, female participants preferred fairer pledges less than male participants. In the questionnaire at the end of the experiment, subjects were asked if people are reliable or not. Their answers are used as the variable *peptrust*. We can see that the effect of their trust was significant on their voting decisions. Participants, who declared that they think that people are trustable, vote for the fairer pledges more.

¹⁷ Multinomial and binomial logit tests were applied

Table 10: Determinants of Fair Voting

Fair	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Gender	-1.717651	.6974574	-2.46	0.014	-3.084643	-.3506599
_cons	.9555114	.5262348	1.82	0.069	-.0758899	1.986913

Fair	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
peptrust	3.14511	1.120112	2.81	0.005	.9497297	5.340489
_cons	-.7472144	.4046513	-1.85	0.065	-1.540316	.0458876

The effects of other variables such as their self reported happiness in their life and of their previous electoral decisions, trust to politicians and demographic factors had no effect on the fair voting.

As we were analyzing the effects of the income group type in the game on voting there was no statistically significant relation¹⁸. 60% of the fair voters were from high income group and the rest (40%) were from the middle income group. Even though the results were statistically insignificant, we can conclude that subjects preferred fair distribution more when they are richer. That result is also consistent with the findings of Tyran et al. (2006) that have predicted that rich voters will choose fair policies more than middle income group by using FS expected utility model on distribution policy preferences. Their experimental results were in line with the prediction as well.

For self-interested voting and punishment the same variables were tested with logistic regression model. All the changes and relationships were statistically insignificant.

¹⁸ Logistic regression and OLS estimation was applied but the results were insignificant.

CONCLUSION

Departure from selfish behavior is described as irrational in mainstream economics. But experimental and real life evidence shows that people make decisions altruistically as well. With that paradox, models and theories have been developed to include other motivations beside self-interest to individual utilities.

In our study, we investigated political decisions when subjects were acting as politicians and voters and were allocated to different income groups as voters in a manipulated dictator game design.

The main result regarding the behavior of the politicians is that they allocated part of the endowment even there was no repetition of the electoral game (a dictator game setup). Politicians shared 60% of the endowment on average in the dictator game stage.

Politicians, in our experiment were generally promise keepers. The mean pledge fulfillment ratio was 92% for the whole experiment. We have also found that political competition really worked and they pursued strategies to maximize their votes. Pledges to income groups were higher in the treatments where they were pivotal, even higher with the increasing competition in the last stages of these treatments. We can say that overall, they pledged strategically, kept their promises (with high ratios) and allocated the endowment even without re-election concerns. However, we could not find any relation between the approval rate and pledge fulfillment or total distribution. We can not support Corazzini et al. (2014) evidence on that topic.

Voting behavior has always been controversial since its rationality was questionable. Benefits of voting have always been considered lower than its cost. However, as mentioned in many studies people gain utility from pro social behaviors also. In this study we examined voting behavior in three motivations; self interest, fairness and punishment. We gave them a chance to see what politicians pledged to other income groups to make them act about fairness of the distributions. Also as explained before there was subsistence consumption level which is higher than the initial income of the low-income group. Most of the subjects revealed the pledges in the 2nd stages. With that manipulation and with effect of punishment, the overall rate of self-interested voting decreased in the last two stages of treatments. That showed us people really cared about the status of others in a community.

Self-interested voting is apparent. In the second and third stage of the treatment, we see that a higher percentage of voters have chosen politicians promising less. This is also due to the punishment effect. The overall ratio of punishment behavior was same for the last two stages. The ratio of punishment was not very high during the experiment. Less than half of the voters eliminated politicians who did not keep their promises. Although disentangling the motivations was quite hard, punishment was the clearest one among those three behaviors. Despite its relatively lower ratio, fair voting was also preferred by subjects. Voting preferences of subjects were heterogeneous in our experiment that confirmed the previous evidence.

This study provided an evaluation of the formal theories about political competition, social preferences and other related behaviors. Our results confirmed that subjects' preferences are heterogeneous and even under convenient conditions people tend to share endowments with others.

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APPENDIX

Ending Questionnaire

Answers and Overall Ratios

1) Age	18-25: 69 26-34: 1
2) Gender	33 F/ 37 M
3)Field of study	14 Faculty of Law / 56 Faculty of Economics
4)How many times have you voted in political elections?	Average: 3 min 0 max 9
5)Did the political party win the elections you lastly supported? (Yes/No)	Yes: 16 No:41 (13 Not Answered)
6)What is the degree of your happiness about your vote?(0-10)	If answer to 2nd question is "Yes": 5,3 If answer to 3rd question is "No": 5,26
7)What is the degree of your happiness in life?(0-10)	Overall: 5,26 F- Average : 6,57 M- Average: 6,52 Average: 6,55
8)Are people reliable? (Yes/No)	Yes: 12 No: 57
9)Are politicians reliable?(Yes/No)	Yes:2 No:68
10)Please rate your opinion about income distribution:	Average: 4,8 Law: 4,9 Economics: 4,8
<i>1- Income distribution must be more equal</i>	
<i>10- To increase the individual effort income levels should be different</i>	

Handout for Participants

Gelir Grupları Dağılımı→	3(DG)-1(OG)-1(YG) *3 Seçim	2(DG)-2(OG)-1(YG) *3 Seçim	1(DG)-2(OG)-2(YG) *3 Seçim
Seçim sayısı ve mekanizması	1-sadece <i>bireysel</i> vaat ve dağılım	1-sadece <i>bireysel</i> vaat ve dağılım	1-sadece <i>bireysel</i> vaat ve dağılım
Oyun Süreci:	2-istendiği takdirde diğer seçmenlere vaatler ve dağılımlar	2-istendiği takdirde diğer seçmenlere vaatler ve dağılımlar	2-istendiği takdirde diğer seçmenlere vaatler ve dağılımlar
1-Kampanya 2-Seçim 3-Gerçek Dağılım	3-seçim haberleri	3-seçim haberleri	3-seçim haberleri
Bir önceki döneme göre değişim	*Politikacılar sabit kalıyor(gelir dağılımı değişene kadar)	*Gelir grubu dağılımı değişiyor *Politikacılar değişiyor *Yeni politikacılarla 3 seçim	*Gelir grubu dağılımı değişiyor *Politikacılar değişiyor *Yeni politikacılarla 3 seçim
Kazanç Fonksiyonları	*Seçmenin <i>kazancı</i> =ilk gelir+ politik gelir-geçim seviyesi	*Seçmenin <i>kazancı</i> =ilk gelir+ politik gelir-geçim seviyesi	*Seçmenin <i>kazancı</i> =ilk gelir+ politik gelir-geçim seviyesi
İlk gelir: Dg=0 Og=100 Yg=200	*Kazanan <i>polt kazancı</i> : Maaş+ (Bütçe- Toplam Dağıtılan miktar) – geçim seviyesi	*Kazanan <i>polt kazancı</i> : Maaş+ (Bütçe- Toplam Dağıtılan miktar) – geçim seviyesi	*Kazanan <i>polt kazancı</i> : Maaş+ (Bütçe- Toplam Dağıtılan miktar) – geçim seviyesi
Geçim seviyesi=100			
Politikacı maaşı=150	*Seçimi <i>kazanamayan Polt kazancı</i> : - geçim seviyesi	*Seçimi <i>kazanamayan Polt kazancı</i> : - geçim seviyesi	*Seçimi <i>kazanamayan Polt kazancı</i> : - geçim seviyesi

*Seçmen ve politikacılara birer adet soru sorulmaktadır oyun esnasında; seçmen için “Sizce kazanan politikacı vaatlerini yerine getirecek mi? (Evet –Hayır)” , politikacılar için “Seçimi aşağıdaki oranlarda kazandığınız takdirde bütçenin(500) toplamda (tüm seçmenlere) ne kadarını dağıtırsınız? (%60-80-100)”. Bu soruların cevapları diğer oyunculara gösterilmeyecektir.

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Adı Soyadı	F. Ceren AY
Tez Başlığı	The Effects Of Policy Pledges And Fairness Perception On Political Decisions: An Experimental Analysis On Voting When Self Interest And Moral Conflict
Savunma Tarihi	19.07.2016
Danışmanı	Doç. Dr. Sezgin POLAT

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