

The best of both worlds... or institutionalising electoral lottery?

A quantitative study of mixed-member electoral systems in Central and Eastern Europe

Daniel Bochsler

Center for the Study of Democracy, University of California in Irvine
and Département de science politique, Université de Genève

bochsler@politic.unige.ch

Abstract

In recent years, a new type of electoral systems had its breakthrough in many countries: mixed electoral systems. They combine elements of two opposed worlds of electoral systems: One part of the seats in parliament is elected by plurality or majority vote, the second part by proportional representation (PR). Mixed compensatory systems are those where the proportionally allocated seats are aimed at "correcting" disproportionalities created in the plurality/majority tier, and producing an overall proportional outcome. Do they always lead to overall proportional results? How many compensatory seats are necessary to produce a proportional outcome (fully compensatory systems)? In this paper, I provide such an estimation, based on knowledge about the seat share that the largest parties usually wins under different an electoral system (Taagepera 2007). My model shows that mixed compensatory systems without a necessary share of compensatory seats (partially compensatory systems) have a concentrating effect on the party system, preventing small parties from competing and gaining votes. The prediction formula is discussed for Albania and Hungary, both Central and Eastern European countries that apply mixed (partially) compensatory systems. Using a case study of the 2005 elections in Albania, I further point on one of the most important shortcomings of those electoral systems that has never before come to the attention of electoral system scholars. Mixed compensatory systems offer a loophole for strategic manipulation through collective vote splitting that many might say is not realistic to be used. The two large Albanian parties involved in such a strategy, allowing them to set the compensatory mechanism out of order. I show that this collective vote strategy is transferable to other mixed compensatory systems that offer voters a separate vote for each tier.

1 The prototype of the 21st century's electoral system?*

The German electoral system has got a bestseller in the charts of worldwide electoral system in of the 1990s and the early 21st century. Combining proportional (PR) with majoritarian rules, the German electoral system unifies two completely different worlds of electoral system logics; some would praise it for combining "the best of both worlds" (Shugart/Wattenberg 2001b: 582f.).

In national parliament elections, each German voter has two votes: with the *first vote* she elects the MP of her local district, similar to the logics of a first-past-the-post system; with the *second vote* she elects one of the parties competing at the national level.¹ Half of the 598 seats in the German "Bundestag" (lower chamber of the parliament) are elected in single-seat districts,

* I am in dept to Alex Fischer for his critique on this paper, to interview partners for information on the Albanian 2005 election campaign, and to the Swiss National Foundation for financing my work.

according to the *first vote* (personality vote); the remaining half, the compensatory mandates, is given directly to the parties, according to the share of the *second vote* (party vote) they win. However, in the distribution of the compensatory mandates, the seats parties won in the single-seat districts are subtracted, in order that the overall distribution of the 598 seats on the parties will be as proportional as possible.

I employ the term *mixed electoral systems* for such and similar electoral systems, where both PR and plurality or majority rules apply in two or several separate tiers on the same territory, and each voter votes according to both rules.²

In the “best of both worlds” view, these *mixed electoral systems* are seen as positive,

- since it allows voters not only to elect a political party, but at the same time to have an influence too on which candidates will be elected (Shugart 2001).
- Such mixed electoral systems should allow the representation of both local and national interests, due to the election district candidates that rely on the local votes of their constituency, and of additional candidates from party list that are told to represent rather national interests (Shugart 2001; Thames 2005).
- Studying electoral systems means as well studying how electoral laws are decided on, and there mixed electoral systems often might serve as a compromise between parties seeking for plurality or majority voting systems and other parties favouring PR (cf. for example Schiemann 2001).
- And latest, but probably most important, is the often discussed moderating impact of mixed electoral systems on party systems. In this view, plurality or majority vote systems might lead to a very strong concentration of the party system, leaving many voters non-represented, whereas PR might lead to a fractionalisation of the political landscape. Mixed electoral systems are seen as a happy medium between both extreme options (Shugart 2001: 28ff.; Kostadinova 2002).

This made of the German electoral system – until the 1980s seen as an abnormality – a success story in recent years: Albania, Bolivia, Mexico, New Zealand, the Philippines, Venezuela adopted it at the national level, the UK for the election of the Scottish and the Wales regional assemblies.³ Many more countries introduced very similar mixed electoral systems, although without compensation rules for the PR mandates.

1 Those voters who give their first vote to a candidate not affiliated with a party list have only one vote. Such candidates do not get a significant amount of votes.

2 A different terminology speaks of “mixed-member electoral systems”, or “parallel systems”, and definitions of what is understood as such vary. For classifications see Massicotte/Blais (1999) and Shugart/Wattenberg (2001a).

3 The application in Italy is not listed, as it was dropped in 2006, and further, it had some different mechanisms. Tunisia is not listed because using only one vote for the election of both tiers (Massicotte and Blais 1999: 354f.).

With regards to the advantages of mixed electoral systems, there have only been punctual empirical tests of the “best of both worlds” view,⁴ and few contributions discussing possible dis-functionalities of the systems.⁵

And, despite the quick spreading of mixed electoral systems, we know fairly little about their outcomes in practice. If regarding their impact on the party system, previous studies found that they have an impact somewhere in between PR and plurality/majority vote (Kostadinova 2002), although without a much more precise specification. With regards to disproportionality, many scholars are expecting compensatory mixed electoral systems such as the German one to lead to proportional or almost proportional outcomes and thus comparable to PR.⁶

But many questions remain open: Under which conditions are the outcomes proportional? How many parties should we expect from a mixed electoral system?

In Central and Eastern Europe, two countries applied compensatory mixed electoral systems; Albania (three elections, 1992, 2001, 2005), and Hungary (five elections, 1990-2006), all with very similar patterns: In all eight elections, there were about 20-30% of the overall mandates reserved as compensatory seats, and a national threshold of 2.5%, 4% or 5% applied for the compensatory seats. Further, both Albania and Hungary have a rather nationalised party system (partly encouraged through requirements for the compensatory mandates), with only few local parties or independent candidates running (source: my database; see table 1, next page).

However, the outcomes in the series of elections were very different, partly resulting in a two-party system [Albania 1992, Hungary 2002, 2006], in other cases in up to four effective parties in parliament [Albania 2005; Hungary 1990, 1998]. Yet, compared to many other countries in post-communist Europe, party fractionalisation in the compensatory electoral systems was – no matter if two or four effective parties – rather low. This might astonish, since compensatory electoral systems are often treated as special PR systems, and latter are generally considered to go hand in hand with higher party fractionalisation than other electoral systems. A look at the results shows however big differences in the proportionality of the vote-seat conversion across my eight cases, with less than 4% disproportionality [Albania 1992], whereas in other cases seat shares are very different from vote shares, and governing majorities were created just through the vote-seat conversion of the electoral system [Albania 2005; Hungary 1994].

4 See for instance Thames (2005) on the party versus district orientation of MPs elected in mixed electoral systems; Kostadinova (2007 forthcoming) on the electoral chances of women and minorities.

5 Monroe (2003: 442f.) mentions that mixed electoral systems might provide “some inconsistent PR-majoritarian mush, or even the worst of both electoral worlds”.

6 Cf. Shugart/Wattenberg (2001: 584), Schoen (1999: 475), Nohlen (2004: 188ff.), Tiefenbach (2006: 124), Herron/Nishikawa (2001: 65).

		Electoral system	N ₂	Nv for PR vote	LSq (overall seats vs. PR vote)	Largest party		
						Vote share (PR)	Seat share (plurality/majority tier)	Seat share (total)
<i>Albania</i>	<i>1991</i>	<i>Majority vote in 250 single-seat districts.</i>						
	1992	Compensatory with only 1 ballot: 100 majority mandates, 40 compensatory mandates. 4% threshold for compensatory tier (plus the requirement of at least 33 candidates in at least 9 administrative districts)	2.0	2.2	3.6%	62.0% (DP)	90.0% (90/100)	65.7% (92/140)
	1996	<i>Mixed, non-compensatory. 115 majority mandates, 25 PR. 4% threshold for PR tier (respectively 4% for each party in the case of alliances). Two ballots.</i>	1.3	2.8	25%	55.5% (DP)	<i>n.a.</i>	87.1% (122/140)
	1997	<i>Mixed, non-compensatory. 115 majority mandates, 40 PR. 2% threshold for PR tier. Two ballots.</i>	2.2	2.9	11.3%	52.3% (PS)	68.7% (79/115)	65.2% (101/155)
	2001	Compensatory, 2 ballots: 100 majority mandates, 40 compensatory. 2.5% threshold for PR tier (respectively 4% in the case of alliances).	2.6	3.2	8.2%	41.5% (PS)	73.0% (73/100)	52.1% (73/140)
	2005	Compensatory, 2 ballots: 100 plurality mandates (no runoff), 40 compensatory. 2.5% threshold for PR tier (respectively 4% in the case of alliances).	3.8	10.5	30%	7.7% ^a (PD)	56.0% (56/100)	40.0% (56/140)
Hungary	1990	3 tiers: 176 majority mandates, 152 PR, 56 compensatory (positive vote transfers). 2 votes. 4% national threshold for PR and compensatory tier.	3.8	6.71	13.8%	24.7% (MDF)	64.8% (114/176)	42.5% (164/376)
	1994	3 tiers: 176 majority mandates, 152 PR, 56 compensatory (positive vote transfers). 2 votes. 5% national threshold for PR and compensatory tier.	2.9	5.5	15.6%	33.0% (MSZP)	84.7% (149/176)	54.2% (209/376)
	1998		4.1	4.5	7.5%	29.5% ^b (Fidesz)	51.1% (90/176)	38.3% (148/376)
	2002		2.2	2.8	7.5%	41.1% ^b (Fidesz)	54.0% (95/176)	48.7% (188/376)
	2006		2.3	2.7	5.3%	43.2% (MSZP)	59.1% (104/176)	49.7% (192/376)

Table 1: Electoral systems and outcomes in Albania and Hungary. The Albanian 1991, 1996, and 1997 elections are included into the overview, although held by non-compensatory electoral systems.

^a Albania 2005: Large parties transferred their PR votes to smaller parties; largest party with regards to overall seat share.

^b Hungary 1998/2002: Fidesz gains largest seat share due to strategic alliances in the majority districts, however being only the second largest party according to vote numbers in both ballots.

Sources for electoral systems: Biberaj (1998: 128, 289); IRI (1996: 15); Nohlen/Kasapovic (1996: 108f., 111, 126ff.); Schiemann (2001); Szajkowski (2003: 362 Electoral Studies); OSCE (2005). Sources for electoral results: Albania, 1991: Commission on Security and Collaboration in Europe (1991). 1992: Biberaj (1998: 137); 1996: Biberaj (1998: 297); IRI (1996: 33, 86ff.); 1997: Commission on Security and Cooperation in Europe (1997); 2001: Private Communication by the Central Electoral Commission; 2005 Homepage Central Electoral Commission. Hungary, 1990-1998: University of Essex; 2002-2006: Central Electoral Commission <http://www.valasztas.hu>; Nikolenyi (2004). (All calculations my own.)

The first aim of this paper is to develop a quantitative model that predicts the number of parties that we might expect in compensatory mixed electoral systems, showing under which conditions a compensatory mixed electoral system might lead to proportional vote-seat conversion – and when not.⁷ This model is important as a basis to discuss what are the reasons for possible deviations from the expectations.

Second, I discuss why the image of compensatory mixed electoral systems is getting tarnished. The results of the 2005 Albanian elections, one of the Central and Eastern European cases using a compensatory mixed electoral system, have not been noticed in detail outside the country. Parties promoted way of strategic voting widely followed by their voters that put the compensatory mechanism the system would provide for completely out of order. The Albanian example teaches us how strategic party behaviour can circumvent the compensation mechanism of German-style electoral systems. I explain the functioning of this strategic behaviour in terms of my quantitative predictive model, and show, that this way of manipulation of the system's outcomes must not be limited to Albania, but could occur in the same way in Germany too. Further shortcomings are discussed shortly on a theoretical and empirical basis.

2 Predicting the outcome of compensatory mixed electoral systems

2.1 *Majority systems, personalised PR, or a hybrid in between?*

With the widespread introduction in many democracies, the scholarly view on compensatory mixed electoral systems and their impact on party system has undergone a change in recent years.

Regarding simple electoral systems, based on single-seat districts or PR, scholars share widely accepted conclusions: We know that under typical condition of Western Democracies, plurality or majority vote often favours two-party systems,⁸ whereas PR in multi-member districts allows multi-party systems (Duverger 1951; Rae 1971).

In compensatory mixed electoral systems, those incentives are combined, so that in plurality/majority tier, the outcome will be not proportional, and favour the largest parties in the seat allocation. The PR mandates are there to compensate for the disproportionalities created through those incentives.

Regarding the overall outcome of those systems systems, views are divided, and often imprecise.

Duverger (1986: 72) sees electoral behaviour in mixed electoral systems widely influenced by the first vote that is cast for the candidates in the single-seat districts, apparently determined by the German case in the pre-1990 period. The electoral system was described leading to two large

⁷ The paper is part of a wider study on mixed electoral systems in Central and Eastern Europe, the region with the highest concentration of mixed electoral systems in the world (Golder 2005). Due to the limits in space, this paper is focussed on the compensatory type of the electoral systems that in Central and Eastern Europe has been applied for a series of elections in Albania.

⁸ For a discussion of limits and exceptions to this rule, see Cox (1997).

parties, because only the two main parties the parties may have good chances to win the single-seat districts.

The view is opposed by a second school that sees the compensatory mixed electoral system as a special form of PR, the type of “personalised PR” (Moser 1995: 383; Kreuzer 2004; Nohlen 2004: 188ff.; Ferrara et al. 2005: 131). Indeed, in compensatory systems it is the PR component that determines the overall seat distribution in the parliament, and accordingly, this school expects outcomes that are not different from pure PR.

Finally, an increasing number of studies treat *mixed electoral systems* as a whole, no matter the rules applied for the seat allocation in the proportional or compensatory tier, and this school would often characterise the mixed electoral systems as being a hybrid between plurality/majority systems and PR (Kostadinova 2002).

There might not only be doubts about the different estimations of the compensatory mixed electoral systems impact on party systems, the latter approach lacks of a more precise indication of what degree of fractionalisation of the party system we might expect in those electoral system.

2.2 The limits of party fractionalisation in mixed compensatory electoral systems

The study of compensatory mixed electoral systems is raising particular difficulties when it comes to their impact on the party system, or more particularly on party fractionalisation. The aim of the compensatory tier is to compensate parties that get a less than proportional representation in the plurality/majority tier, yet to allow small parties to have electoral success and to produce a proportional outcome if calculating over the whole number of seats. Or, the compensatory tier eliminates the overrepresentation that large parties won in the plurality/majority tier.

It does not need to be argued thoroughly that in a compensatory electoral system with a very large plurality/majority tier, and only a very small number of compensatory mandates, the proportionality might be quite limited, because the few compensatory mandates might not be enough to compensate many small parties⁹ for their under-representation in the plurality/majority

9 In this paper, I use the distinction in small parties and large parties in order to describe different typical outcomes of plurality/majority elections. Typically, in highly nationalised party systems and under the absence of strategic party alliances (are subject to discussion in other chapters of my thesis, where this paper is taken from, cf. Cox 1997; Bochsler 2005), small parties will be under-represented and large parties over-represented in the plurality/majority tier.

It might be possible that for some reasons a small party might be one of the largest parties in some regions/districts, and if a nationally small party has such a regional voter structure, its might be overpaid with seats at the end. The characteristics that in this paper are discussed for large parties would fit for those regional parties too. But to keep things simple, readers might assume high party nationalisation – thus, parties having an approximately homogeneous vote share across all regions of a country.

A particular problem impose parties that win direct mandates in single-member districts, but do not clear the threshold imposed in the PR tier. But as long as we do not have very important amounts of systematic vote splitting of the two votes, this outcome might remain rather low-scale, and no cases are known to the author with many such mandates. For a discussion of collective vote splitting, see section 3 below; and a more careful discussion of possible creation of such mandates through low party nationalisation might merit further academic attention.

tier. On the other hand, if a very large part of the mandates is accorded as compensatory seats, they will (under normal conditions) be enough to compensate for all non-proportionalities.

Taking this distinction for granted, we might introduce a distinction between different kinds of compensatory system, related to their outcome: If the share of compensatory mandates (c) is low, they might not be enough to compensate completely for disproportionalities, and the outcome might still deviate from the proportionality formula applied (cf. figure 1, left part). Even if the compensation tier allows some correction of disproportionalities, the system remains just *partially compensatory*. If the share of compensatory mandates (c) is high enough, the system will be *fully compensatory*, thus there will be enough compensation mandates to make the overall outcome proportional (to the degree that the applied formula of proportionality is proportional) (cf. figure 1, right part). Both types of compensatory systems are separated by the point $comp=c$, yet the point where an electoral system is *just compensatory*: The point is defined through the characteristic that even a single seat is moved from the compensatory to the plurality/majority tier, or if only a single vote is moved from a large party to a small party (that does not win any plurality/majority mandates, but clears the PR threshold), the system will get only partially compensatory.

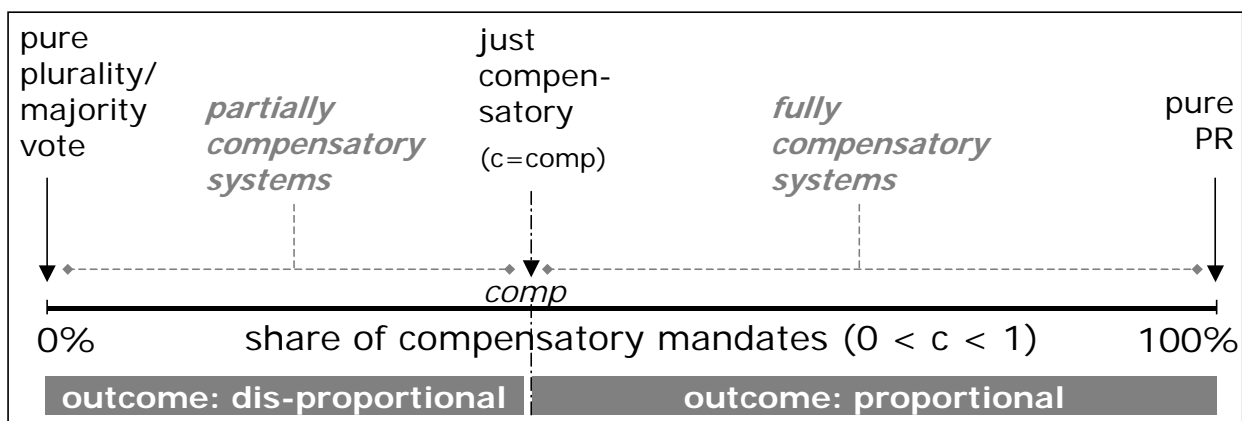


Figure 1: Partially and fully compensatory systems and break-even point c , where systems are just compensatory.

“Roughly”, according Moser and Scheiner (2004: 580), with 50% of compensatory seats, “the result is a distribution of seats almost fully controlled by the PR vote”. However, the exact position where a system is *just compensatory* has not been determined. It might be not universal, but depend on the nationalisation of the party system, the size of the parliament, and most of all on the vote distribution on political parties, and on the PR formula applied in the PR tier.

Consequently, if measured from the outcome aspect, the same electoral system might once be fully compensatory and another time only partially compensatory, if the vote distribution changes.

This is where the psychological effect of electoral systems gets important: As it has been established for “simple electoral systems” (Duverger 1951; Sartori 1968), parties and voters adopt their behaviour to the incentives of electoral systems. In analogy, a compensatory mixed electoral system that allows for full compensation would allow more parties to compete, whereas an only

partially compensatory electoral system produces disincentives for small parties and might concentrate the votes on large players. For that reason, over time a system that initially was not able to compensate for under-representation and lead to heavily disproportional results might reduce the number of competing parties and suddenly get produce more proportional outcomes.¹⁰

This means that we cannot distinguish fully from partially compensatory system on the basis of the disproportionality that they produce. Instead, due to different incentives they give to parties, they lead either to a certain degree party fragmentation. Fully compensatory systems lead to the same degree of party fractionalisation as PR systems (according the applied PR formula and possible legal thresholds connected to it), partially compensatory systems lead to lower degrees of party fractionalisation. The minimum of expected party fractionalisation would correspond to the number of parties "produced" by a purely plurality/majority vote system with a similar number of seats.

The key characteristics of the functioning of mixed compensatory electoral systems would thus be:

- a) The thresholds for party entry set through the PR formula (including legal thresholds, or division of the compensatory tier into districts). Those give incentives for party entry or party concentration, and thus "allow" a certain degree of party fractionalisation.
- b) The seat share accorded in the compensatory tier. The key question related to this measure is: Given the degree of party fractionalisation as incited through the PR formula and other thresholds in the compensatory tier, and given that the plurality/majority tier will produce disproportionalities in the distribution of the district seats on the competing parties, will the share of compensatory mandates be large enough to correct those disproportionalities and allow an overall proportional seat distribution?

2.3 Predicting the outcome of mixed compensatory electoral systems

Based on the previous distinction, the outcome of mixed compensatory electoral systems (in terms of party fractionalisation) can be either determined by the applied PR formula and thresholds in the PR tier, or by the share of compensatory mandates. The share of compensatory mandates gets relevant, as soon as it would not be large enough to compensate all parties that might pass the PR thresholds, for the disproportionalities they suffer in the plurality/majority tier. The latter is the case in *partially compensatory* systems.

If discussing the compensatory tier's ability to correct disproportionalities, we might either ask if it counts enough mandates to give small parties all the mandates that they deserve proportionally.

10 Ferrara et al. (2005: 60) show that the share of SMD districts affects the average number of candidates in mixed electoral systems, however, the results are to be taken with caution, because the authors do not distinguish if this effect works in compensatory systems the same way as in non-compensatory systems (the linear model applied supposes that the average number of candidates will change in both types of systems identically if the share of the SMD changes; however, the incentives given by the compensatory and non-compensatory systems are not the same – but there might be not sufficient empirical variance to distinguish the effect and to get significant results). It might be interesting investigating this impact not only on the number of candidates in districts, but likewise on the number of effective candidates, thus not only consider the parties' strategic decisions, but the strategic behaviour of voters too.

Or, we might ask the opposite question, if the share of plurality/majority seats is small enough, so that the overrepresentation of large parties in this tier might be corrected through the compensatory tier.

We have more knowledge on the latter aspect, since previous work established accurate estimations of the size of the largest party in a given electoral system.¹¹ We might thus estimate the absolute number of mandates that the largest party (that is usually the most over-represented party) wins in the plurality/majority tier, and we might estimate the number of mandates that the largest party of a party system would win if all the seats of the parliament would be accorded by proportional representation. As long as the number of mandates won in the plurality/majority tier is not larger than the number of seats the party might win according to the PR rule, the system will be fully compensatory. Based on the considerations about the seat share of largest parties, we can establish a predictive formula that indicates at which level a system will be just compensatory, so that a further increase of the compensatory tier would not increase the proportionality of the system and not increase the number of parties in parliament (cf. appendix).

For a given number of seats in parliament (S) and a given legal threshold applied in the PR tier (t), the share of compensatory mandates where a system is just compensatory ($comp$) is given as follows:

$$comp = 1 - S^{1/7} \cdot t^{3/7} \quad \text{[formula 3 in appendix]}$$

According to this formula, both with an increasing number of seats in the overall parliament, and with an increasing legal threshold in the PR tier, the number of necessary mandates for full compensation decreases. If looking on the Taagepera model on which my considerations are based, if a parliament that consists of single-seat plurality/majority districts grows, the number of parties, will increase (because the party system might vary from district to district). A side effect of this is that the expected seat share of the largest party in larger parliaments will be smaller. If looking at mixed compensatory systems, then a larger size of the parliament will reduce the share of necessary compensation seats, because the relative overrepresentation of large parties is smaller. Second, a larger legal threshold in the PR tier reduces the number of small parties in the overall system, and in consequence, it increases the share of seats the largest party is entitled to proportionally. Because the largest party is "allowed" to hold more mandates, the demand for compensation gets smaller if the threshold grows.

Based on this formula, we can predict that none of the mixed compensatory electoral systems in Central and Eastern Europe will be fully compensatory: The Albanian parliament, counting 140

¹¹ We need to be careful, since Taagepera's formulas were developed for simple electoral systems in stable party systems (often this might imply that the parties adopted the electoral system's incentives after a number of elections). I use the model under the assumption that single elements of mixed electoral systems might have similar impacts, and expect that the party systems in Europe's youngest democracies will take the typical shape as known from old democracies, after repeated elections.

seats, and a national 2.5% threshold (in 2001 and 2005), would require 58% of the mandates (82 in absolute numbers) to be compensatory; currently there are only 40. In 1992, when the threshold was at 4%, still 49% of the mandates (69 seats) would have needed to be compensatory.

An electoral system based estimation of the number of parties would predict about 6.2 effective parties for a country with a 2.5% threshold (or 5 parties under a 4% threshold). However, in Albanian elections under the mixed compensatory parties, only as many as 2 (1992) up to 3.8 effective parties (2005) gained seats; much less than we would expect in a PR system.

Similarly, the numbers show that Hungary's electoral system (384 seats; 5% threshold since 1994, 4% in 1990) was not fully compensatory.

In Hungary, 35% of the mandates or 135 seats would be necessary to compensate for the non-proportionalities in the majority vote tier (41% or 158 seats in 1990). (When speaking of Hungary, I employ the notion 'majority vote', because Hungary applies an absolute majority rule with a two-round system.) Indeed, 208 out of 376 seats are accorded by PR rules, but the structure of the electoral system is different from common compensatory electoral systems, first because a big part of the PR mandates (up to 152) does not serve for compensatory aims, so that in reality the compensatory tier was ways smaller, counting only 64-90 seats. Second, Hungary does not employ a pure compensatory rule for those seats, but the system of positive vote transfer, so that even very over-represented parties can still win compensatory mandates (for instance, in 1994, the MSZP got 7 out of 85 compensatory mandates, even after getting 2.6 times over-advantaged in the majority tier).¹² At the end, with not having sufficient compensatory mandates, and applying a special compensatory rule, it is no wonder that Hungary has only a partially compensatory system: For instance, in two elections, parties with only 30% or 40% of the votes won a majority of seats in parliament (cf. table 1 above), leaving less mandates for smaller parties. It should thus not astonish that due to the majority-building (and concentrating) effect of the partially compensatory Hungarian electoral system – despite an initially very high fragmentation of the vote – the number of parliamentary parties decreased. At the end, it remained below the 4.4 effective parties that I would have predicted for a *fully* compensatory system with a 5% threshold.

12 The electoral system in Hungary has only some aspects that resemble a compensatory mixed system, yet it has been described as one of the most complicated (Schiemann 2001: 234). Hungary applies a unique system with three tiers; 176 seats are allocated by majority votes, 152 as non-compensatory PR mandates in 20 multi-member districts (5% national threshold), but the remaining seats are only awarded if 2/3 of the Droop quota (approximately 2/3 of the vote share necessary for one seat in parliament) are reached; otherwise seats are transferred and added to the 58 fix seats in the third, compensatory tier. This gives the compensatory tier a variable size, from 90 mandates (in 1990) to 64 (in 2006) (for a full description, cf. Schiemann 2001, Benoit 2001). Instead of a real PR-aimed seat distribution in the compensatory tier

2.4 *The effect of partially compensatory systems*

For electoral systems where the compensatory tier is smaller, the number of mandates won by the largest party in the plurality/majority tier will be larger than the number of mandates that the largest parties usually win in PR systems, and then the electoral system will be only partially compensatory. With no means, this does mean that the partially compensatory system will not be able to compensate for the disproportionalities of the basis of a given empirical vote distribution.

Possibly the outcome of the electoral system gets anticipated by the voters and parties, so that at the end only so many parties compete and gain votes that all the seat-winning parties will be represented proportionally.

For this purpose, we should study the nature of what has been called the “psychological effect of electoral systems” (Duverger 1951). Budge et al. (1997: 238) argue, in line with Duverger, that “the more the voting system discriminates against mini-parties, and the poorer their chances of winning even one seat, the more likely they are to drop out of the contest, leaving mainly the larger parties in the running. This will lower the number of effective parties and increase proportionality in future elections.” However, what will happen in partially compensatory mixed electoral systems?

The functioning of the psychological effect is different: What is special about partially compensatory systems is that they would allow many small parties to win at least one seat, but they will still be under-represented in parliament, yet will have low conversion rates of votes into seats (“A-ratio” less than 1, cf. Taagepera/Shugart 1989), whereas large parties get over-represented (“A-ratio” above 1). This makes the nature of the psychological effect different. We deal not any more with representation or non-representation, but with over- or under-representation, with A-ratios above or below 1.¹³

In this situation, incentives for small parties are conflicting: Previous work has often focussed on the chances of small parties to win *at least one seat*, and in this sense, partially compensatory systems would incite many small parties to compete, because parties – if passing the electoral threshold – will always win mandates in parliament in the compensatory tier, however, not proportionally to their actual force.

On the other hand, partially compensatory electoral systems might bring along negative incentives for small parties’ electoral support. For this, we should not look at the chances of the parties to win *at least one seat*, but rather at the chances of winning a *proportional share of seats* (an A-

13 Simple electoral systems in most of the cases make a sharp distinction between winners and losers – yet parties that win an amount of seats that is often above their vote share and others that do not get represented in parliament. It might be possible that parties narrowly win representation, but not in all the districts, what might lead to severe under-representation, but this can be observed only for parties with a vote share just around the effective threshold, and would rather not be the case if the analysis would have been made at the level of electoral districts. Although A-ratio under 1 might occur for smaller parties due to heterogenous district sizes or heterogeneous vote shares over the country, in each district the A-ratio is very likely to be above 1 or 0 – and intermediate levels are the exception. And it is at this district level, where voters and politicians take the decision for which party they vote or run.

ratio above one). To understand why the conversion rate of votes into seats matters for the psychological effect, we have to focus less at the level of the party leadership than at the level of individual voters and at the level of politicians seeking offices and choosing for this purpose among different parties. For voters, political activists, and potential candidates, large parties – *ceteris paribus* – offer a better value than small parties, because they can make more out of their votes or out of their mobilisation force: If small parties get under-represented, and large parties over-represented, a vote for a large party counts more in terms of seats than a vote for a small party, what gives a voter of a large party more weight in parliament and candidates better chances to get elected. Over time, even small differences in the vote-seat conversion rate can provoke an exodus of voters, activists, and politicians towards large parties, and make small parties disappear or merge with large parties.

The consequence of partially compensatory systems might be that the party fractionalisation remains below the level of fractionalisation that we expect in a purely proportional system with the same PR formula applied. Speaking about methodology, if we want to operationalise empirically the question of the character of an electoral system, we should not only consider measures of proportionality (such as the Least-Square index by Gallagher, 1991), but rather the effective number of parties in parliament.

What would be thus the expected number of parties for a partially compensatory electoral system? As seen, over time, there is no (or minimal) disproportionality produced, and thus only those parties compete that are likely to win a proportional share of the (overall) seats. This is only the case if the largest party does not win an over-proportional share of the seats; otherwise those surplus mandates would go on the extent of smaller parties. Again, based on the work of Taagepera (2007), we are able to estimate the share of seats that the largest party wins in the plurality/majority tier. Further, we know that the number of seats the largest party wins in the plurality/majority tier is the number that it should win according to its votes in the PR tier. If this is the case, the electoral system manages to accord each party a proportional share of seats (since no party is over-represented). But at the other hand, in the case of a larger fractionalisation of the vote, the largest party would get over-represented, and thus disproportionalities would be created. Based on the share of compensation mandates (c) and the overall seats in the electoral system (S), we can estimate the effective number of parties in parliament (N_2) as follows, $N_2 = S^{1/6} \cdot (1 - c)^{-7/6}$ (formula 4 in appendix).

Having only a very small amount of data points, and limited variance in the electoral systems applied, we might not expect to account largely for the variance in the party systems; rather it is relevant if the empirical data are close to the expectations.

In the Albanian case the predicted number of parties would thus be 3.4, but empirical results from 1992 and 2001 are much lower, whereas in 2005, the number of parties elected exceeded the

expectations. In Hungary, the results for the 1994 elections fit quite well, whereas in 1990 and 1998 more parties gained seats in parliament, and in 2002 and 2006 the number of parties was lower than expected (figure 2).

Mostly, the expected value deviates not more than 0.5 effective parties from the real one, what is a quite precise prediction for electoral systems in post-communist countries, that often lead to very unexpected outcomes (Moser 2001; Golder 2002). If we consider that the Hungarian and the Albanian parliaments have a rather low party fractionalisation compared to other countries in the region under study, my model works out quite well, predicting moderate party fractionalisation for the electoral systems used.

Still, there might be several individual explanations of the deviations from the expected value.

First, some deviations might be the case because the elections were held only shortly after the introduction of a new electoral system, and this might explain why in initial elections in Hungary the party fractionalisation was high, and why in the 1992 and 2001 elections in Albania (both hold after the change from a more majoritarian electoral system), party fractionalisation was low, shaped by the party system under the previous institutions (table 1 above). Second, in the case of Hungary, we might further expect different countervailing impacts due to the character of the compensatory tier: The system of the positive vote transfer formula is a modified compensatory mechanism that usually leaves over-represented parties some advantages. This reinforces the overrepresentation of large parties, and thus the psychological effect. Third, parties can circumvent some of the electoral system impacts through alliances, as seen for instance in the Hungarian 1998 elections, where the "Young Democrats" Fidesz with smaller parties of the centre-right bloc agreed on mutual support of candidates in the second round of the runoff elections, leading to a proportionalisation of the outcome in the majority tier, and to an increase in the overall number of parties. And fourth, we might look for deviations that are due to the formula that has been applied to estimate the seat share of the largest party winning elections. Indeed, Taagepera (2007) developed this estimator rather for developed, well-institutionalised party systems. Further, both Albania and Hungary have in recent years a high party nationalisation (homogeneous regional distribution of votes), what might increase the share of mandates that the largest party wins in a majority vote system. Indeed, the Taagepera formula underestimates the share of the largest party. If basing our estimation not on the *predicted* seat share for the largest party in the plurality/majority tier, but on the *empirical* seat share,¹⁴ the model would give more accurate results. In further studies, it shall be investigated thus more closely for factors that cause the deviations of the largest seat share in the plurality/majority tier.¹⁵

14 Using the formula $N_2 = (p_{1SMD} (1 - c))^{-4/3}$.

15 It appears that, with the Taagepera formula, the predicted number of parties for assemblies beyond 100 mandates might be over-estimated, when party nationalisation is high. This would be the case both for Hungary and Albania. We

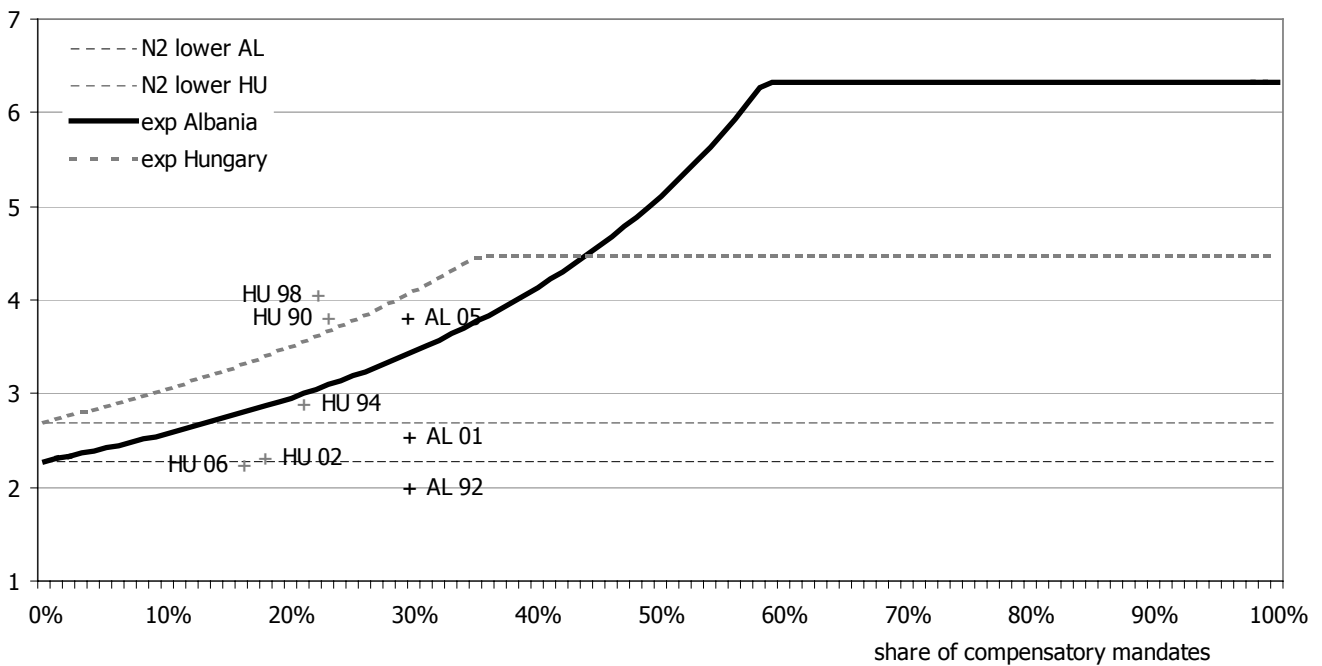


Figure 2: Predicted party fractionalisation for Albania and Hungary under the assumption of different shares of compensatory mandates, and real values.

In the case of Albania 2005, the number of parties is larger, because parties asked voters to split their votes strategically between the majority vote ballot and the PR ballot, in order to set the compensatory mechanism out of order, and this way to manipulate the outcome of the compensatory electoral system. The impact of strategic vote splitting on electoral outcomes will be discussed in the following section.

3 When players fool their own rules:

How to apply a vote recycling strategy in mixed compensatory electoral systems

It is very common that individual or collective actors such as voters or candidates behave in a strategic way, in order to maximise their outcome under certain rules, not least in electoral systems. In this section, I shall discuss by means of a case study of the Albanian 2005 elections the loopholes that mixed compensatory electoral systems offer to strategic manipulation.

Usually, when speaking of strategic voting behaviour in mixed electoral systems, the phenomenon of vote splitting is discussed, where voters of small parties give their first vote (candidate vote) to larger parties, that have better chances of succeeding in the single-seat districts, but still vote for their favoured party in the PR tier. The Albanian 2005 elections show the consequences of a very widespread and systematic vote splitting between different parties. Different from common vote-splitting, the strategic behaviour that occurred in Albania was not in line with the incentives given by the electoral system, but rather aimed at putting out of order the intended functioning of the electoral law, and to eliminate the compensatory mechanism. For scholars of electoral systems,

might investigate if compensatory electoral systems have incentives that might lead to high party nationalisation (Bochsler 2005).

the elections point out a loophole that is spread in mixed compensatory electoral systems that work on a two-vote basis.

As discussed, the Albanian electoral system is partly compensatory, with 100 single-member districts and only 40 compensation mandates (29% of the whole parliament), for parties that pass a 2.5% national threshold. We would expect that all the compensatory mandates go to the parties that are not represented through the plurality/majority tier, or severely under-represented. In 2005, Albanian parties adopted a vote strategy that disabled this compensation.

3.1 Lessons learned from Dushk

The vote splitting strategy had its origin in the 2001 elections in the constituency number 60 in Central Albania, around the municipality Dushk. Then, elections couldn't take place on 24 June and were repeated two weeks later, on 8 August (OSCE 2001) – for reasons that remain unclear. On the basis of preliminary results, the Socialist Party won 72 of the 99 elected proportional districts, but its PR vote share would have given it only 67 seats (my calculation). The party could not win any more compensatory mandates. Three minor parties close to the Socialists (the Greek minority Human Rights party PBDNJ, at this time allied to the Socialists, the Democratic alliance AD and the Agrarian Party PASH) all failed narrowly to pass the national 2.5% threshold, leaking just as little as 715-2400 votes.

Because the Socialist party resulted to be already over-represented through the 72 district seats it hold, any additional proportional vote would have been useless for the party, and could not increase any more its number of seats in parliament. As a consequence, the party called its supporters in Dushk to cast their proportional ballot for its small allies (OSCE 2001). In the repeated election in the district, the Socialist Party direct candidate Asllan Haxhiu Sadush won 59% of the majority tier votes, but in the PR tier the Socialists got only 6% of the vote. Apparently, voters followed in a very disciplined way the call to support the PBDNJ, AD and PASH parties, who made with 18% up to 28% of the PR votes in Dushk their best results throughout Albania (cf. table 2). This way, each of them passed the 2.5% threshold and won three seats in parliament. (Actually, not only Socialist voters helped them for that purpose, but as well some 1000 to 1500 out of 3900 voters of the Democratic party candidate in the majority race in Dushk must have voted for the small Socialist allies, as suggested by aggregated vote results.)

	24 June (whole country)	8 August (Dushk district)	Sum
PS	41.86%	5.60%	41.51%
PD+BF	37.01%	16.28%	36.81%
PD	5.10%	3.43%	5.09%
PSD	3.63%	5.02%	3.64%
PBDNJ	2.45%	20.03%	2.61%
PASH	2.32%	28.48%	2.57%
AD	2.40%	18.18%	2.55%

Table 2: Albanian election results 2001, PR votes. (Threshold: 2,5% of the national vote)

Four years later, the Socialist party realised that they could move from a “Dushk” to the “Mega-Dushk” and use the vote splitting strategy countrywide. It hoped this way to assure its small allies enough extra seats in parliament in order to secure enough parliamentary seats to renew its absolute majority to govern with them (OSCE 2005a: 5). This is where the Democratic Party threatened to adopt the same strategy too.

3.2 Vote recycling gets large-scale: From “Dushk” to “Mega-Dushk”

If looking at the 2005 results from the plurality tier, then they widely corresponded with the expectations, with 2.0 effective parties elected, and with the largest party holding 56 seats (predictive formula according Taagepera 2007: 2.2 parties; 56 seats). But if considering the seat distribution of the whole system, the resulting fractionalisation lays ways above the expectations, with overall 3.8 effective parties elected to parliament (with 10.5 elective parties according the votes cast in the party ballot!). Furthermore, disproportionality of seats and votes (measured with Gallagher’s Least-square-index) is with 30% by far the highest of all elections held under mixed compensatory electoral systems in Central and Eastern Europe.

How could this happen? This was the consequence of the applied “Mega-Dushk” strategy, the countrywide collective vote splitting organised by the two largest Albanian parties. With this strategy, both the Democratic Party and the Socialist Party aimed at avoiding the compensation established by the electoral law. They knew that they would win a considerable part of the districts, and that the compensation seats would thus mostly go to some smaller parties. Indeed, the Socialists and the Democrats won 98 out of 100 mandates. If the Socialists and the Democrats would have gotten the same votes on the party ballots as they got on the district ballots, the resulting disproportionality would have been low. Small parties, scoring together 12.5% of the national vote, might have won 18 of the 40 compensation mandates (plus one majority mandate). This would have secured the small Socialist alliance for Integration (LSI) proportional representation compared to its vote share, and the role of the pivotal voter in the Albanian parliament.¹⁶

However, the large parties PD and PS both wanted to win – even if winning only a minority of votes – the majority of seats in the parliament. The compensatory system offers them a backdoor to do this:

The Democratic party leader Sali Berisha, decided to manipulate the electoral results through the formation of an alliance with seven minor parties and an agreement on strategic voting behaviour

16 Calculation if taking the votes from the PR tier, but eliminating the split-votes, thus taking the allied party blocs– as listed below – as a whole: PD 41.1% votes, 63 seats. PS 37.2% votes 57 seats. LSI 8.4% votes, 13 seats. PBDSH 4.1% votes 6 seats. In the previous elections, 2001, indeed the PD engaged in such a party alliance in the PR tier with some of the parties that in 2005 were included into the PD bloc.

(cf. OSCE 2005b).¹⁷ In this alliance, the parties agreed that only the Democratic Party (PD) would put up candidates in the single-seat districts, whereas the small allied parties would compete in the PR tier. Some of those allies competed in the previous national elections on the list of the PD, others won altogether less than 2% of the national PR vote.¹⁸ This time, the PD would ask its voters to give their party ballot to the small allies.

As a result of this strategy, the PD secured 44% of the votes in the plurality districts, and 56 out of 100 seats in this tier – a clear case of over-representation. An over-representation in the plurality tier might have been anticipated, and indeed the PD expected in advance that for this reason it would not win many of the compensatory mandates (calculation below). Thus, the votes were anticipated not to have much worth in the compensatory tier. This is why the PD decided to “recycle” them, transferring them on the small allies. At the end, the seven small PD allies won not less than 33% of the votes for the party ballot, whereas the PD itself just won 8% (cf. table 3 below; conclusion drawn on an aggregated basis). Due to this strategy, the PD did not win any mandates in the compensatory tier, but thanks to the transferred votes, its small allies could win 18 additional seats. Together with the 56 plurality tier seats for the PD, this gives an absolute majority of the 140 seats in parliament.

The same strategy was applied by the Socialist Party (under the leader Fatos Nano), who declared that his party would engage in a non-formalised pre-election alliance with four minor parties (OSCE 2005a: 6f.). All of them were closely linked to the Socialists already before, building the governing coalition after 2001, having competed in 2003 together in local elections and being connected in multi-party parliamentary groups.¹⁹ Each of the small parties was very small in previous elections; if summing the PR votes for all four parties in 2001, they won just 8.8% of the vote. In the 2005 elections, the Socialist party (PSSH) campaigned for the direct district mandates and won more than 39% of the votes in this tier, and secured 42 out of 100 district seats, but it asked its voters to give their PR ballot to the small allies. Indeed, the small allies won 30% of the party votes, and thus 16 compensatory seats.

The strategic behaviour goes at the expense of non-allied small parties that hardly win any seats in the plurality tier, and thus do not have any opportunity to engage in a similar strategy. In the case of the 2005 elections, the two non-allied small parties that passed the 2.5% threshold (LSI, PBDNJ) won instead of 19 seats only 7 seats (my calculation, result in the case of no vote-splitting strategies). This gave them a conversion rate of votes into seats (A-ratio) just about 0.4, or 2.8

17 Partia Bashkimi Demokrat Shqiptar (PBDSH), Bashkimi Liberal Demokrat (BLD), Lëvizja për të Drejtat dhe Liritë e Njeriut (LDLNJ), Partia Balli Kombëtar Demokrat (PBKD), Partia Demokristiane e Shqipërisë Aleanca për Liri (PDK), Partia Demokratike e Re (PDR), Partia Republikane (PR).

18 Although some of the small parties have older roots and existed since the start of the democratisation process in 1990/1991, they remained irrelevant in the Albanian party system, lacked of clear defined goals and could never attract significant support and were not really institutionalised; many parties split due to personal rivalries rather than programmatic differences (Biberaj 1998: 70, 235). Only the “Dushk” and the “Mega-Dushk” strategy brought them importance.

In the 1992 elections, where the Democratic party, the Republican Party, and the Social Democratic Party were in opposition against the Socialists, the Republican Party competed with a program close to the Democratic Party, but some Republicans still saw the Democrats as their main rivals, and in districts where the Socialists did not have real chances to get elected, the Republicans campaigned against the Democrats. The Social Democratic Party was close to the Socialist Party (Biberaj 1998: 133).

19 Those allies were the small Aleanca Demokratike (AD), Partia Demokracia Sociale e Shqipërisë (PDSSH), Partia Agrare Ambientaliste (PAA) and the Partia Socialdemokrate e Shqipërisë (PSD).

times less than the theoretical A-ratio in the case of no vote-splitting of 1.09 that would have been fair.

If analysing the manipulation at the level of equality of votes (or A-ratios), we can detect that the strategy, named by the municipality "Dushk" (cf. below), allows split voters (if employed in a systematic matter) to increase their vote efficiency: the first time, they use their vote to guarantee their party a district seat, the second vote helps for the party ally's success in the PR tier. Votes for parties that do not apply systematic vote splitting are less efficient, because their district seats won are subtracted from the overall number of seats won, and in the effect, the vote counts only once, and not twice.

	SMD votes	SMD seats	PR vote	PR seats	Total seats	Total share
Party Block "Partia Demokratike"	43.5%	56	41.1%	18	74	52.9%
PD	Partia Demokratike	43.5%	56	7.7%	0	56
ALDM - BDSH	Partia Bashkimi Demokrat Shqiptar	0.0%		0.5%		0
ALDM - BLD	Bashkimi Liberal Demokrat; Aleanca	0.0%		1.1%	1	1
ALDM - LDLNJ	Lëvizja për të Drejtat dhe Liritë e	0.0%		0.7%		0
ALDM - PBKD	Partia Balli Kombëtar Demokrat; .	0.0%		0.6%		0
ALDM - PDK	Partia Demokristiane e Shqipërisë	0.0%		3.3%	2	2
ALDM - PDR	Partia Demokratike e Re; Aleanca	0.0%		7.4%	4	4
ALDM - PR	Partia Republikane; Aleanca për	0.0%		20.0%	11	11
Party Block "Partia Socialiste"	42.7%	42	37.2%	16	58	41.4%
PSSH	Partia Socialiste e Shqipërisë	39.4%	42	8.9%	0	42
AD	Aleanca Demokratike	0.8%		4.8%	3	3
PDSSH	Partia Demokratia Sociale e Shqipërisë	1.2%		4.2%	2	2
PAA	Partia Agrare Ambientaliste	0.7%		6.6%	4	4
PSD	Partia Socialdemokrate e Shqipërisë	1.3%		12.7%	7	7
Small parties over the 2,5% threshold (49)	9.2%	1	12.5%	6	7	5.0%
LSI	Lëvizja Socialiste për Integrim	8.3%	1	8.4%	4	5
PBDNJ (Greek m	Partia Bashkimi për të Drejtat e L	0.9%		4.1%	2	2
Small parties below the 2.5%/4% thresho	3.9%	1	9.1%	0	1	0.7%
I PAVARUR		1.2%		0.0%	1	0.7%
AMS	Aleanca për Mirëqënie dhe Solidari	0.1%		0.4%		0
Independent		0.0%		0.0%		0
LBSH	Partia Lidhja e Blerët Shqiptare	0.0%		0.1%		0
LDI		0.0%		0.0%		0
LZHK	Lëvizja për Zhvillim Kombëtar - Lu	1.5%		3.5%		0
PAP		0.0%		0.0%		0
PASH		0.0%		0.0%		0
PASSH	Partia Aleanca Socialiste Shqiptar	0.0%		0.5%		0
PBK	Partia Balli Kombëtar	0.1%		1.7%		0
PDDRDSH	Partia Demokratike Demokratia e	0.0%		0.1%		0
PDI	Partia për Drejtësi dhe Integrim	0.0%		1.2%		0
PESH		0.0%		0.0%		0
PGjSh		0.0%		0.0%		0
PKSH	Partia Komuniste e Shqipërisë	0.3%		0.7%		0
PKSH 8 Nent		0.0%		0.0%		0
PLMDSH	Partia Lëvizja Monarkiste Demok	0.1%		0.1%		0
PPKSH		0.0%		0.0%		0
PPSH	Partia e Punës e Shqipërisë	0.3%		0.7%		0
PRDSH		0.0%		0.0%		0
PSHKS	Partia e Sigurisë Kombëtare Shq	0.0%		0.0%		0
PSHS + PUK	Partitë Shqiptare Sociale dhe Pa	0.1%		0.2%		0
PSKSH		0.0%		0.0%		0
Total		100		40	140	

Table 3: Electoral results in Albania 2005; single-member districts (left) and proportional results (right); parties are assembled by (informal) party blocks. Source: Central Electoral commission, own calculations.

Many scholars might think that it is difficult to get such a disciplined strategic behaviour of large groups of voters, particularly in a young democracy, where the voters' understanding of institutions and strategic behaviour might be even more limited than in old democracies. In the

electoral campaign, the pre-election agreements were implemented on several pillars. Results suggest that the strategy was taken into place almost²⁰ perfectly (OSCE 2005a, 2005b²¹).

- In the electoral campaign, the major parties asked their supporter to vote for the minor allied parties with their proportional vote. Only this allowed for such widespread and systematic vote splitting, as it was the case in the elections.
- Through straight alliances with the minor "balloon parties", the major parties secured that themselves would benefit of the electoral manipulation. In the case of the Republican party, 30 of the candidates on the PR list were indeed members of the Democratic party; some of them even members of the outgoing parliament (OSCE 2005b: 10). The Republican party, despite its roots reaching the democratisation in 1990 (Biberaj 1998: 70, 133), was previously an unimportant party and an ally to the Democratic party, but it gained 20% of the PR votes and 11 compensatory seats in the 2005 elections.

3.3 The transformation of compensating systems into non-compensating systems

So how can we generalise the outcomes of electoral systems if a vote splitting strategy is applied?

In the 2005 Albanian elections, the small parties, Socialist Movement for Integration and the Greek minority Human Rights party, won because of the "Dushk" vote splitting 2.6 respectively 3 times less seats than they would be proportionally entitled to – a result that is very close of a non-compensating system.²²

The following graph shows the simulation of the outcome of different amounts of split votes and thus shows the consequences of the "Dushk" strategic vote splitting for small parties, based on the 2005 Albanian elections (figure 3). On the x-axis, the share of strategic voters among large parties was graphed.²³ In the 2005 elections in Albania, 79% of the Socialist and Democrat voters cast their PR vote for a smaller party. This situation is compared to other levels of strategic voting – from 0%, where all the voters that cast their vote for the large parties in the districts would vote for them in the PR part too, up to 100%, where the large parties would only make votes in the districts, but no single vote in the PR tier.

On the y-axis, the A-ratio of small political parties is graphed. "Small" are those political parties that do not win any seats in the majority tier; they are the ones that lose if the large parties (winning seats in the majority tier) adopt manipulative strategies.

Indeed, the psychological effect worked properly; so that without the "Dushk" strategy the electoral system would have allowed a proportional outcome. Under this condition, the A-ratio would be identical about 1.1 for all parties that clear the 2.5% threshold; the seat distribution would correspond to that of a proportional system with a countrywide constituency and a 2.5% threshold. Yet, even some of the compensation mandates would still go to the largest party, the

20 *Almost*, because a more perfect vote splitting would have even increased the impact, see below, section 3.3.

21 Further information on this point is taken from an interview we hold with Gilles Saphy, who was in charge with the OSCE for the Albanian 2005 elections, and in interviews with specialists for the Albanian political system.

22 Their proportional seat share as part of the parliamentary seats was calculated after dropping the votes for parties that did not pass the 2.5% national legal thresholds, on the basis of 139 seats, as the one seat won by a party below this threshold in the SMD elections was subtracted of the total number of parliamentary seats.

23 Share of the votes of both large parties that went to other competitors, calculated on the basis of aggregated results.

Democratic Party. This is why the Democratic Party might transfer up to 12% of its votes in the PR race to smaller allied parties – and the overall outcome would still be proportional. Until this point, the A-ratio is equal for all parties, and stable.²⁴ Only if transferring more than 12% of its votes, the party can get advantage of this strategy. Then, the PR vote share of the Democratic Party would be smaller than its equivalent in mandates won in the district races. With increasing vote splitting, the A-ratio pattern moves towards the shape of plurality/majority vote, where small parties have substantially smaller A-ratios than large parties.²⁵

If the “Dushk” strategy would be carried out in a perfect way, all votes of larger parties would go to small allies in the PR race. At this point, the compensation mechanism of the electoral system ceases to be in force; instead, the outcome resembles that of a non-compensatory mixed system. In non-compensatory mixed systems, the seats of the proportional tier are not used to compensate for non-proportionalities in the plurality/majority tier. Instead, the proportional mandates are given strictly proportional to the vote share in this tier, and they are added to the mandates won in the plurality/majority tier.

In the case of Albania, the mixed electoral system would guarantee small parties not a proportional share of the 140 seats, but only a proportional share of the 40 PR seats, giving them 3,5 times less seats than without such vote-splitting, and to the advantage of the large alliances. This is equivalent for elections under non-compensatory mixed systems, those where the PR seats are accorded without any compensatory goal (shown by the dotted line in figure 3).

24 Such low-scale vote splitting is not unusual for mixed electoral systems. Individual voters might often give their both votes to different parties, for instance because they prefer a candidate from another than their favourite party in their electoral district, because the candidate of the favoured party has small chances to win the district race, because they want support several parties in the elections, or because they want to secure a smaller potential ally of their favoured party to pass the threshold in the PR part of the elections. All this is consistent with the rule “one person, one vote”, because the vote-splitting gives those voters not more influence on the composition of the parliament than to other voters that do not split their votes, yet often they split their votes to avoid wasting it. At the aggregate level, often small parties might win more votes in the PR tier, because many small voters will vote strategically for more chanceful candidates in the district votes. Indeed, for individual voters it is impossible to distinguish “Dushk” voting from common vote splitting; only if parties openly adopt such a strategy or if it get widely used, it is identifiable.

“Dushk voting” however has the intention of disrupting the compensation mechanism through systematic vote splitting, in order to have a better payout of the own vote. At the level of the individual ballot, common split-votes can not be distinguished from “Dushk”-split-votes. Only if the “Dushk”-vote strategy is applied in large scale, or if parties openly campaign for such a strategy, it can be distinguished from “common” vote splitting.

25 The trend has however a rupture if – as in the present example – voters of two or more parties apply the vote-splitting strategy. Under this circumstance, there is a sharp bend in the graph at the point where the second (or further) party starts winning surplus mandates too. Graphing the A-ratio of the second party, it is first stable (until the tolerance point), then it decreases in the same way as for small parties, and then starts to increase again.

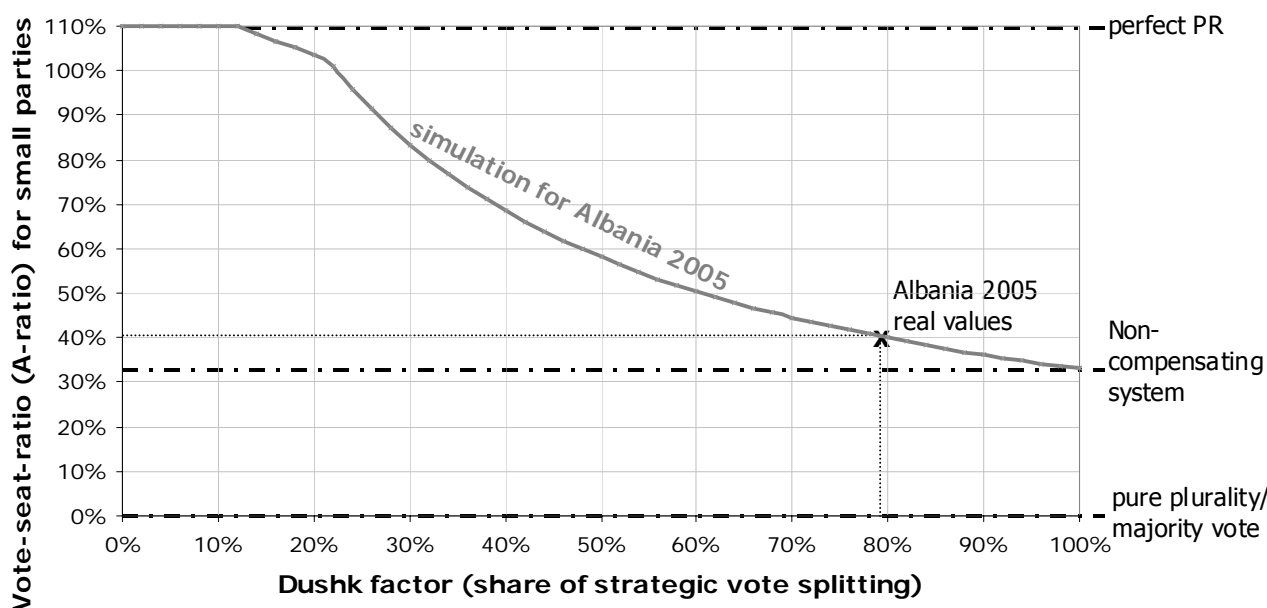


Figure 3: The impact of strategic vote splitting ("Dushk" factor, x axis), on the electoral success of small parties (vote-seat ratio, y axis). Simulation and real values for Albania in 2005.²⁶

3.4 "Dushk" is everywhere

The question arises what explains that this vote splitting strategy was used in the Albania case, if it is a particularity that is tied to the Albanian electoral system and party system, or if similar strategies might or do actually occur in other countries too. I shall analyse institutional brakes that are or might be discussed in order to prevent such a vote splitting strategy, and shall discuss the applicability in Germany, the main example of a mixed compensatory electoral system, and in Hungary, the only other case where a similar system is used in the region under investigation.

In a first time, we might discuss possible institutional measures that would disable a "Dushk"-like vote splitting strategy.

Some might argue that a flexible number of seats in the compensatory tier would avoid the problem of the manipulation through vote splitting (OSCE 2005b: 5). Thus, in the case of occurring disproportionalities between both tiers, the share of compensatory mandates could be increased through an overall increase in the number of seats in parliament. Such a measure would have a double effect. We might not only expect it to enable vote-splitting strategies, but in a similar way it would as well allow the system to be fully compensatory. However, we should be aware that in situations of wide spread vote-splitting strategies, the required number of seats in parliament to

26 The share of strategic vote splitting measures the net share of votes that went from the major parties (winning SMD mandates) to their allies, the "balloon parties". 100% would mean that all the votes that the major parties got in the SMD elections were cast for balloon parties in the PR elections.

The vote-seat ratio of small parties measures their seat share, as part of their share of the valid and successful votes (total amount of valid votes in the PR election minus the votes cast for parties that failed to pass the national legal threshold). that small parties won. As small parties, those parties are counted that passed the electoral threshold, but did not win SMD district mandates (or being clearly underrepresented in those, as the Greek Human Rights party in Albania). "Balloon parties", allied to larger parties, are not counted as such. If some of those parties win few SMD mandates, this may change the curve to a little extent from the expected line; however as long as the number of those mandates remains very low not to an important degree.

keep the system proportional would quickly multiply. For the actual Albanian voting results from 2005 (79% of vote splitting), the parliament would have to count 600 seats for a proportional seat distribution, a size that is rather typical for countries with 200 millions of inhabitants (Taagepera/Shugart 1989), and impose practical problems (insufficient number of nominated candidates by parties; available space in the parliamentary building) and undermine the political legitimacy of the system (possibly low acceptance of a sudden multiplication of the number of seats in parliament; increase of costs for parliament expenses). If the strategy of vote splitting would be followed very consequently – even if only by the supporters of one single party – the required size of parliament would even approach infinity (cf. simulation in figure 4). Compromises between the ideal of proportionality and the necessity of a limited size of parliament are thinkable, but not satisfactory from both aspects, and they might still allow a very considerable profit through vote splitting strategies.

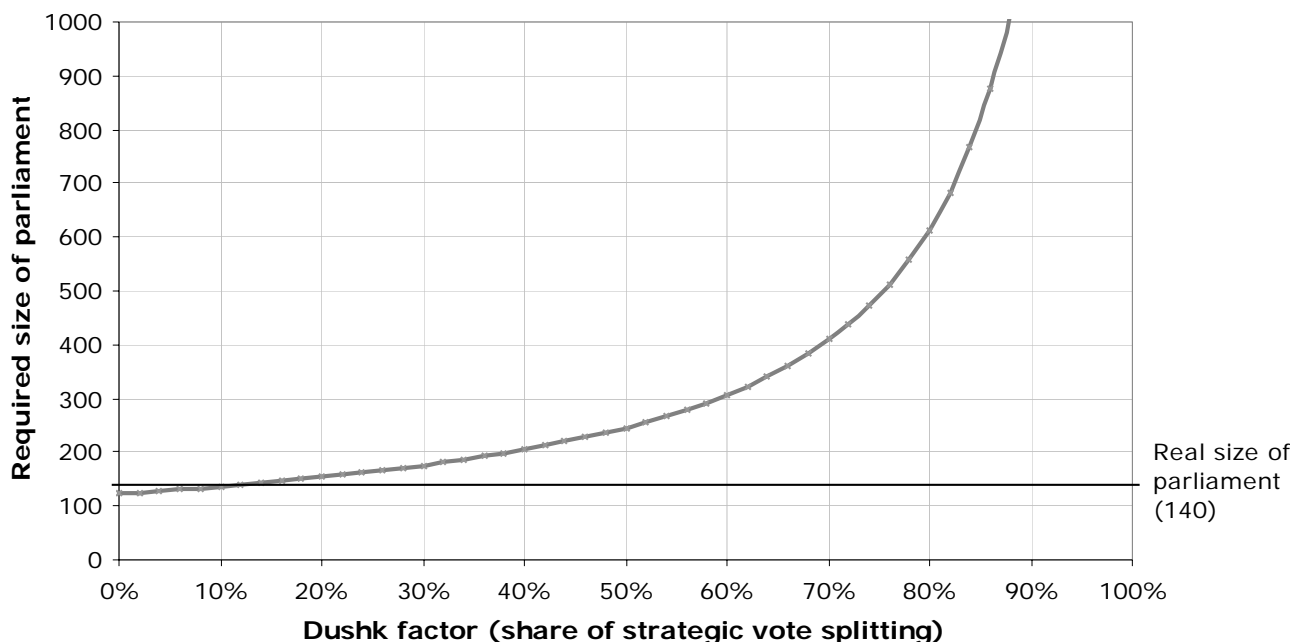


Figure 4: Required parliamentary size, if strategic vote splitting shall be compensated through a flexible number of proportional seats. Simulation on the basis of Albanian electoral results of 2005.

Further, a general increase of the share of the compensatory tier in the Albanian electoral system was subject to discussion (OSCE 2005b: 5). Under the given vote distribution, this would require a much more consequent vote splitting strategy in order to have an effect out of it. However, we might expect from this measure too an increase of party competition and party fractionalisation, and after such a change of the party system again, a vote splitting strategy might be very efficient, yet, the increase of the A-ratio possible to achieve through a vote splitting strategy might be even larger because for a given vote share transferred to a small party, there remuneration in mandates in the compensatory tier might be much larger.

The only viable alternative to rule out the vote splitting problem is to forbid vote splitting, yet to move from a two-vote system to a system, where there is no specific vote for the compensatory tier. This is practiced in the one-vote-compensatory systems in South Korea or for the regional elections in German Nordrhein-Westfalen or Baden-Württemberg (cf. Müller 2004) – but that would mean that features that are considered to be positive in two-vote-systems (as the possibility to choose personality and party) would get lost.²⁷

Hungary has a two-vote system, but a fundamentally different one from Albania. As discussed, the Hungarian system counts three tiers: the first tier is elected by majority vote in 176 single-seat districts; the second tier is elected by PR in 20 regional districts; in the third tier, votes that have not been awarded in the first and the second tier are counted, and compensated for (Schiemann 2001). Under this construction, manipulation through collective vote splitting is not possible, because there is no special ballot for the compensatory tier. Consequently, it is not possible to put up a fictively independent competitor that would score in the compensatory tier – the latter might not win any votes without competing in the first two tiers too.

However, the Hungarian solution is unique; there are many other countries where a vote splitting strategy would be possible similarly to Albania. Albeit mixed compensatory electoral systems have been used over years in Germany and recently in many countries, it is the first time that such a large-scale vote splitting has been reported. Is the “Dushk” phenomena an exclusivity of Albania, its electoral system, and its party system?

Strategic voting is not unknown from other countries. Vote splitting of the SMD vote on large parties and the proportional vote on smaller parties is a well-known pattern of strategic voting in countries with mixed electoral systems. Usually, it is explained because small parties have no chance of winning a seat in single-member districts, and in consequence their supporters vote for larger parties. Although, the same pattern might happen in the opposite way, so that not supporters of the small parties split their vote (giving their district vote to large allies), but that supporters of large parties split their votes and give their PR vote to small allies. This is usually a strategy in order to help small allies to pass the threshold, particularly if those small parties are needed to get a majority of seats in order to form the government (Gschwend et al. 2003; Cox 1997). On the single ballot, both strategies can hardly be distinguished.

Germany applies a special electoral rule in the case of overrepresentation of parties in the plurality tier, introducing surplus mandates (“Überhangsmandate”), and thus increasing the size of the parliament in the case when a party gains more districts seats than it would be entitled to. This is

²⁷ Still, it might be possible that two allied parties decide that one party competes those districts where chances are good of winning a mandate – whereas the other party competes in districts with low chances of winning the mandate in order to win votes for the compensatory mandates. However, such a strategy would bring less benefits (only the votes in districts where the party does not win any seats might be “recycled” in the compensatory tier), and might be more difficult to implement, because the outcome of district races is not always predictable.

very similar to the conditions that create the “Dushk effect” in Albania. One among several reasons why surplus mandates might be caused is vote splitting between larger and smaller parties. Since the current German compensatory system with two votes has been introduced in 1953 surplus mandates have only been accorded in very small numbers, flexibilising the number of seats in parliament: This reduces the advantage that a party can get from an overrepresentation in the plurality/majority tier, and guarantees small parties that they win the absolute number of seats they are entitled to, however since the number of seats in parliament is increased, they are penalised relatively, yet German surplus mandates reduce, but do not eliminate disproportionalities. Surplus mandates in Germany are limited to a theoretical maximum of 299 mandates.²⁸

Does the creation of surplus mandates show the existence of a *Mini-Dushk* phenomenon in German elections? My simulation model based on the 2005 election results to the German Bundestag shows that, if omitting the split votes for smaller parties, indeed the amount of surplus mandates would have been reduced, yet that the parties where split votes occurred systematically could indeed profit from a Mini-Dushk effect. According to my simulation, CDU and FDP would have gained five surplus mandates less if not applying a split vote strategy; SPD and the Green party won one surplus mandate only thanks to split voting. Thus, 6 of the 16 surplus mandates in the German 2005 elections might have been omitted if there was no systematic split voting.²⁹ What is valid in Albania is not only thinkable in Germany too, yet the same cause lead in a similar way to an over-representation of the large parties in the German parliament. In future elections a party coalition might even win a governing majority thanks to surplus mandates. However, the Dushk phenomenon up to now happened in much smaller dimensions, and through the existence of surplus mandates, the relative benefits for parties applying a split vote strategy are smaller.

There is only one strategy of collective vote splitting that is prevented through electoral law in Germany and through decisions of the electoral commission in Albania: Indeed, in analogy to the “Dushk” strategy, large parties might think of running their party members as independent candidates in the single-seat districts. This way, if they would get elected, they would not be

28 However, the Constitutional Court has ruled that the non-proportionalities of the German electoral system are only tolerable as long as they remain small; and since disproportionalities are always partially absorbed by surplus mandates, and surplus mandates can only be created under the presence of disproportionalities, this signifies that only an (unspecified) small amount of surplus mandates would be tolerable, what means that an amount of 299 surplus mandates – although possible according the electoral law – would not be tolerated by the Court’s jurisdiction (Bundesverfassungsgerichtsentscheid 95: 335ff., cited in Behnke et al. 2003: 126).

For a discussion of the reasons for creation of surplus mandates in Germany, see Behnke (2003), and Behnke et al. (2003).

29 The other 10 surplus mandates are created already due to other causes, yet a combination of a small share of compensatory mandates in some of the Bundesländer due to differences between their share of the population, of voters, and of votes for not represented parties (wasted votes) and of a vote distribution leading to a high A-ratios for large parties in the plurality districts.

considered as party seats, what would make the parties applying this strategy win the same seat twice: Once with the allegedly independent candidates, the second time as compensatory seats.

Germany rules this possibility out by electoral law: If a voter with his first vote (personality vote) elects a district candidate that is independent (or a candidate of a party that has no party list in the PR tier), then this voter has no second vote (party vote): The party vote, that is on the same electoral list as the personality vote, would simply not be counted.

The Albanian electoral law lacks such a regulation. Indeed, in 2001, Albanian parties tried to use this loophole registered 112 candidates as "independents"; but without success: the abuse was blocked by a ruling of the Electoral Commission (OSCE 2001: 8f.). But against a vote-splitting on two allegedly separate parties, no electoral law with separate vote for the compensatory tier is immune.

4 Mixed electoral systems – the best or worst of both worlds?

In the present paper, I pursued two goals, one of predicting the party fractionalisation in parliaments elected by mixed compensatory electoral systems, and one of showing a backdoor those systems open for parties to abuse them.

Often, this kind of electoral systems is discussed as a special case of PR, but the conditions for PR-like outcomes remained unclear: How many mandates are necessary in the compensatory tier in order to guarantee that the personality vote in the plurality/majority tier does not disadvantage small parties from competing? The present paper offers for the first time a predictive formula, suggesting that the necessary share of compensatory mandates to make a mixed system PR-like depends on the overall number of seats in the parliament and on the level of the threshold applied in the PR tier. Both countries that apply mixed compensatory electoral systems in Central and Eastern Europe, Albania and Hungary, do not attribute sufficient seats to the compensatory tier, and this is why the electoral system does not manage to fully compensate for disadvantages that small parties might experience in the plurality/majority tier.

At the empirical level, this can be seen in the number of parties that after repeated elections remains below the expected level of party fractionalisation for PR systems. At the same time, the disproportionality caused by the compensatory systems remains low; since small parties in recent elections in Albania and Hungary won only small vote shares – supposedly in anticipation of the limited size of the compensatory tier (psychological effect of the electoral system), the small amount of compensatory seat was enough to allow them a proportional representation. An exception of this rule were the latest parliamentary elections in Albania.

4.1 Lessons learned from "Mega-Dushk"

In 2005 elections in Albania, parties involved in a large-scale manipulation through strategic behaviour, advising their voters to split their personality and PR votes between two allied

competitors; a strategy that would enable large party alliance to win more seats in the compensatory tier, setting out of rule the compensatory character of the electoral system.

The "Mega-Dushk" should not remain an unconsidered particularity for the study of electoral systems. Instead, for the designing of electoral systems, possible loopholes of those might be of particular relevance. As seen in Albania, due to anomalies, the electoral system might lose its legitimacy.³⁰ What makes the "Mega-Dushk" phenomenon particularly important is that it is not just a simple anomaly of an electoral formula that can occur by accident, but that it allows a strategic behaviour of actors such as voters or parties that is against the intention of the lawmaker, but that is rewarded with a large sized better payout for the strategic actor.

In many instances mixed electoral systems are praised to lead to a better outcome, due to their moderating influences on the party system and due to the incorporation of different elements of two worlds of electoral systems.

The question if mixed electoral systems would maximise the advantages, or if the mush of PR and majoritarian components might produce rather the "worst of both electoral worlds" was raised by Monroe (2003). In this paper, I showed on an empirical and theoretical basis for one of the problems that the combination of different incentives might provide. The "Mega-Dushk" appears to be one of the most important shortcomings produced by the combination of PR and plurality/majority vote. The only protection against this kind of strategic manipulation is to renounce on some of the tempting advantages of mixed compensatory electoral systems, such as the double ballot.

30 See for instance, Gazeta Shqiptare, 11 September 2005, Toward the proportional (Endri Fuga).

Appendix A: Quantitative models to estimate outcomes of compensatory systems

List of symbols used for variable abbreviations

c	Share of compensatory mandates in mixed electoral systems [$c = 1 - S_{SMD}/S$]
comp	Necessary share of compensatory mandates for a just compensatory system
m	Average number of mandates by electoral district
N_0	Absolute number of parties
N_2	Effective number of parties (Laakso/Taagepera 1979)
N_v	Effective number of parties, based on their vote share
p_1	Largest seat share of single party
p_{1SMD}	Largest seat share of single party in the plurality/majority tier of mixed electoral systems
P_1	Absolute number of seats hold by largest party in parliament [$P_1 = p_1 * S$]
P_{1SMD}	Absolute number of seats hold by largest party in plurality/majority tier [$P_{1SMD} = p_{1SMD} * S_{SMD}$]
S	Overall number of mandates in parliament (or elected body)
S_{PR}	Number of mandates in proportional or compensatory tier of mixed electoral systems
S_{SMD}	Number of mandates in plurality/majority tier of mixed electoral systems [$S_{SMD} = S * (1 - c)$]
t	Legal threshold

Share of compensatory mandates for just compensatory systems

For a first, simplified, estimation of the functioning of the outcome of compensatory systems we have to suppose that the outcomes are the same as if there is *no contamination* of the plurality/majority tier on the PR vote. Thus, voters and parties behave as if the formula and thresholds of the PR tier would be applied. The assumption seems reasonable, since the outcome of compensatory systems is – if they are fully compensatory – the same as under pure PR rules.

The point where a system is *just compensatory* is particularly important for our purposes, since it separates *fully compensatory* systems from only *partially compensatory* ones. To find this point, it is important to have more information about the seat share that the largest party in the party system might win – either in the plurality/majority districts, or if the seats are accorded by a proportional formula. At which share of compensatory mandates does the largest party in the party system win exactly the number of seats in the plurality/majority tier that it would be entitled proportionally? This would be the point where an electoral system is *just compensatory*.

The **seat share of the largest party in the plurality/majority tier** might be estimated using a formula proposed by Taagepera (2007) for district-based electoral systems: The seat share of the largest party p_1 is given through the number of seats (S) that a parliament counts and the district size (m), namely $p_1 = 1/\sqrt[m]{mS}$. In my case of single-seat districts, m is equal to 1, and S is equal to the number of mandates in the plurality/majority tier of the electoral system S_{SMD} . According the Taagepera formula, in a 100-seat plurality/majority tier, we would expect the largest party to win 56 seats (56%); in a 24-seat-tier it would win 16 seats (67%), provided that there is no contamination through the mixed electoral system. The number of mandates in the plurality/majority tier is on the other hand a simple transformation of the share of the compensation tier c and the overall number of mandates in parliament S .

$$\left| \begin{array}{l} p_1 = \frac{1}{\sqrt[3]{m \cdot S}} \\ p_{1SMD} = \frac{1}{\sqrt[3]{S_{SMD}}} = S_{SMD}^{-1/8} = (S \cdot (1 - c))^{-1/8} \end{array} \right. \quad \begin{array}{l} \text{[formula according Taagepera (2007)]} \\ \text{[1]} \end{array}$$

To estimate the **seat share of the largest party in the PR tier**, the type of the PR formula applied matters. In many of the compensatory mixed electoral systems, compensatory PR mandates are accorded in nationwide districts, to parties that pass a national legal threshold. The Taagepera formula of the largest seat share applies for district based electoral systems, there has no corresponding formula been published for electoral systems that are based on national legal thresholds. However, it can be developed in analogy.

Taagepera (2007) is setting an upper and a lower conceptual limit of the number of parties in a party system. The upper limit is given through the limited district size – or, in our case, through the national threshold. In the case of national legal thresholds t , we would have the maximal number of parties, if each party gets just the amount of votes necessary to pass the threshold. If dividing 100% in shares of t , this would result in $1/t$ shares, and accordingly, we have maximally $1/t$ parties. But in reality this limit will never be reached. The lower limit however would be reached if only one single party clears the threshold, either because it wins almost all the votes, not leaving enough votes for further parties to clear the threshold, or because the rest of the votes is too fractionalised. According Taagepera (2007), in the absence of more precise knowledge, we would expect the number of parties being close to the geometric mean of both values, or the square root of $1/t$; thus for an electoral system with a national 5% threshold I would expect a 4.4-party-system; for a 2.5% threshold a system with 6.3 parties.³¹ Still, in analogy to Taagepera, I expect the seat share of the largest party p_1 to be exponentially related to the number of effective parties N_2 .

$$\left| \begin{array}{l} p_1 = N_2^{-3/4} \\ \text{if } N_2 = \sqrt[2]{\frac{1}{t}}, \text{ then accordingly } p_1 = t^{3/8} \end{array} \right. \quad \text{[2]}$$

A compensatory electoral system is *just compensatory*, when the share of compensatory mandates c is such that the number of plurality/majority mandates that goes to the largest party is equal to

31 For the application of Central and Eastern European countries, my estimation deviates from Taagepera ones': Taagepera expects that the geometric mean would predict the absolute number of seat winning parties N_0 . The conceptual limits of the number of seat-winning parties are exactly the same as for N_2 , since at both extremes $N_2 = 1$ and $N_2 = m$, each party holds the same seat share – and under this condition $N_0 = N_2$. He argues that we should choose a function that maximises the distance from both conceptual extremes, and thus $N_0 = \sqrt{m}$ fulfils this the best. Since N_2 is usually smaller (and never larger) than N_0 , Taagepera proposes the cube-root-function $N_2 = \sqrt[3]{m}$ as estimator of the effective number of parties. However, if the same reasoning as for N_0 is made for N_2 as predicted variable (the function has the same conceptual limits, and we might, too, argue that the predictor function maximise the

the number of mandates that this party is entitled to proportionally. The number of mandates a party wins can easily be calculated from the party's seat shares (as developed above), and then used to build an equation that will inform us about where the electoral system is just compensatory.

At $c=comp$, there:

$$\left| \begin{array}{l} S \cdot (1 - comp) \cdot p_{1SMD} = S \cdot p_1 \\ S \cdot (1 - comp) \cdot (S \cdot (1 - comp))^{-1/8} = S \cdot t^{3/8} \end{array} \right. \quad \text{including formula [1] and [2]}$$

Transforming this formula, we can resolve it for comp:

$$\left| (1 - comp)^{7/8} = S^{1/8} \cdot t^{3/8}, \text{ and thus } comp = 1 - S^{1/7} \cdot t^{3/7} \right. \quad [3]$$

Predicting the number of parties in partially compensatory electoral systems

There are two ways how we might estimate the outcome of partially compensatory systems, the first based on the seat share of the largest party, the second based on Taagepera's method of the mean between extreme conceptual limits.

The **largest seat share approximation** is based on the assumption that the largest number of seats a party wins in the plurality/majority tier is equal to the number that would win in a pure PR system according to its seat share.

The largest seat share in the plurality/majority tier was given before, based on the overall number of seats in the parliament and the share of the compensatory tier:

$$\left| p_{1SMD} = (S \cdot (1 - c))^{-1/8}, \text{ or as absolute number of seats, } \dot{p}_{1SMD} = (S \cdot (1 - c))^{7/8} \right. \quad [1]$$

Based on Taagepera's work (2007), we know further that the share of the largest party a PR system is related to the effective number of parties in the following way:

$$\left| p_1 = N_2^{-3/4}, \text{ or as absolute number of seats, } \dot{p}_1 = N_2^{-3/4} \cdot S \right. \quad [2]$$

If thus the number seats the largest party wins in the plurality/majority tier is equal to the number of seats it wins in the overall system, then we can set the outcome of equation [1] and [2] as equal (the same as we did in the first part of the appendix, although this time the share of compensatory seats c is given, and we do not consider the variable t in our model, because we know that the resulting number of parties will be lower than in a pure PR system with a threshold).

If the largest seat share in the plurality/majority tier is known:

$$\left| N_2^{-3/4} \cdot S = \dot{p}_1 \rightarrow N_2 = (p_{1SMD} (1 - c))^{-4/3} \right. \quad \text{[including formula 2]}$$

distance to those limits), then we might come – on purely theoretical grounds, without empirical observations – that $N_2 = \sqrt{m}$.

If the largest seat share in the plurality/majority tier is estimated with Taagepera's formula:

$$\begin{cases}
 P_1 = N_2^{-3/4} \cdot S = (S \cdot (1 - c))^{7/8} & \text{[including formula 1 and 2]} \\
 \text{or transformed, } N_2 = \left(S^{-1/8} \cdot (1 - c)^{7/8} \right)^{-4/3} \\
 N_2 = S^{1/6} \cdot (1 - c)^{-7/6} & \text{[4]}
 \end{cases}$$

A very similar result can be gotten under consideration of the **conceptual limits** of the number of effective parties in partially compensatory mixed electoral systems, the method used by Taagepera (2007).

The upper and lower limits of the number of parties are drawn in figure A1 for a compensatory electoral system with 140 seats and a 2.5% threshold. The upper limit is the result of a simulation of the seat distribution if the political individuals do not take into account the disproportionalities of the electoral system, and cast their vote as if it was perfectly proportional (according the formula applied in the PR tier). Still, the number of parliamentary parties is heavily dependent on the share of compensatory seats, since if the number of compensatory seats is very small, only the parties that are successful in the plurality/majority tier will get elected.

The lower limit corresponds however to the expected outcome of the plurality/majority tier. If the actors' behaviour would be influenced by the disproportionalities of the only partially electoral system, then the outcome would highly correspond to this under limit.

Our estimation must be somewhere in between the both extremes; however there is not a lot of deeper knowledge that might help to locate the outcome more precisely. However, when the number of compensatory mandates is very small or when at the contrary the number of compensatory reaches almost the necessary number for a fully compensatory system, then the number of parties might reach almost one of the conceptual limits:

- If there would just be a marginally small number of compensatory mandates, let's say one mandate in a large assembly, that would be accorded to the most under-represented party, reasonable voters and parties would cast their plurality/majority vote not very different than in a pure plurality/majority system: If there is only a marginal compensation, why count on it? Yet, the outcome of a system with a very small number of compensation mandates can be approximated with the outcome of a pure plurality/majority system.
- If the system would be almost compensatory (let's say one compensation mandate less than in a perfectly compensatory system), why should voters and parties not behave as in a fully compensatory system? It might be that one party would be underrepresented by one mandate, but with such a marginal difference – unpredictable which party it would hit – there is no syste-

matic reason against smaller parties, and the electoral outcome can very well be approximated with the outcome of a fully compensatory system.

Based on this knowledge, I draw an expected function for the number of parliamentary parties in a compensatory electoral system (with some given specifications), based on the share of compensatory mandates (figure A1), starting from a simple plurality/majority system at $c=0\%$, and then gradually with an increase of the compensatory share approaching the upper limit (interpolation of both limits).

The graph corresponds widely with the formula that estimates the effective number of parties as

$$N_2 = S^{1/6} \cdot (1 - c)^{-7/6}.$$

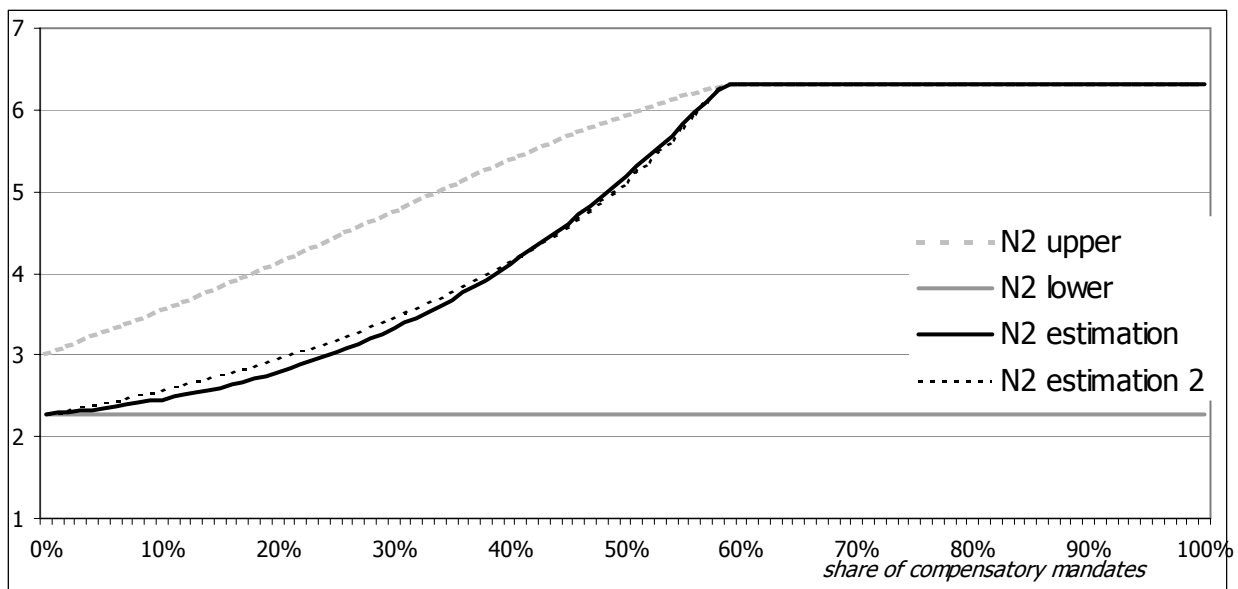


Figure A1: Effective number of parties in a mixed electoral system with a varying number of compensatory mandates, upper and lower limit; theoretical model with a 140 seats-parliament and a 2.5% threshold.

Bibliography

- Behnke, Joachim (2003): Ein integrales Modell der Ursachen von Überhangsmandaten; in: Politische Vierteljahresschrift 44(1). 41-65.
- Behnke, Joachim; Kamm, Ruth; Sommerer, Thomas (2003): Der Effekt der Neueinteilung der Wahlkreise auf die Entstehung von Überhangsmandaten; in: Zeitschrift für Parlamentsfragen 1/2003. 122-145.
- Benoit, Kenneth (2001): Evaluating Hungary's Mixed-Member Electoral System; in: Shugart, Matthew Soberg; Wattenberg, Martin P. (eds.): Mixed-Member Electoral Systems. The Best of Both Worlds? Oxford University Press, Oxford. 475-493.
- Biberaj, Elez (1998): Albania in Transition. The Rocky Road to Democracy. Westview Press, Boulder.
- Bochsler, Daniel (2005): Electoral systems and party systems in the new European democracies. Is party nationalisation the key variable? University of Geneva, political science department. Mémoire préliminaire.
- Budge, Ian et al. (1997): The Politics of the New Europe. Atlantic to Urals. Longman, London/New York.
- Commission on Security and Collaboration in Europe (1991): The Elections in Albania. March-April 1991. US Government , Washington DC.
- Commission on Security and Cooperation in Europe (1997): Albania's Parliamentary Elections of 1997. US Government, Washington DC.
- Cox, Gary W. (1997): Making Votes Count. Strategic Coordination in the World's Electoral Systems. Cambridge University Press, Cambridge.
- Duverger, Maurice (1951): Les partis politiques. Colin, Paris.
- Duverger, Maurice (1986): Duverger's Law: Forty Years Later, in: Bernard Grofman und Arend Lijphart (Eds.): Electoral Laws and Their Political Consequences. Agathon Press, New York. 69-84.
- Ferrara, Federico; Herron, Erik S.; Nishikawa, Misa (2005): Mixed Electoral Systems. Contamination and Its Consequences. Palgrave, New York.
- Gallagher, Michael (1991): Proportionality, Disproportionality and Electoral Systems; in: Electoral Studies 10(1). 33-51.
- Golder, Matt (2002): The Sociological and Institutional Determinants of the Number of Parties: An Improved Empirical Analysis. Working Paper. www.nyu.edu/gsas/dept/politics/seminars/golder_m.pdf.
- Golder, Matt (2005): Democratic electoral systems around the world, 1946-2000; in: Electoral Studies 24 (1). 103-121.
- Gschwend, Thomas; Johnston, Ron; Pattie, Charles (2003): Split-Ticket Patterns in Mixed-Member Proportional Election Systems: Estimates and Analyses of Their Spatial Variation at the German Federal Election, 1998; in: British Journal of Political Science 33. 109-127.
- Herron, Erik S.; Nishikawa, Misa (2001): Contamination effects and the number of parties in mixed-superposition electoral systems; in: Electoral Studies 20 (1). 63-86.
- International Republican Institute IRI (1996): IRI Observation Report on the Albanian Parliamentary Elections of May 26, 1996. IRI, Washington DC.
- Kostadinova, Tatiana (2002): Do mixed electoral systems matter?: a cross-national analysis of their effects in Eastern Europe; in: Electoral Studies 21 (1). 23-34.
- Kostadinova, Tatiana (2007 forthcoming): Ethnic and women's representation under mixed election systems; in: Electoral Studies.
- Kreuzer, Marcus (2004): Germany: Partisan Engineering of Personalized Proportional Representation; in: Colomer, Josep M. (ed.): Handbook of Electoral System Choice. Palgrave, Houndsmills. 222-236.
- Massicotte, Louis; Blais, André (1999): Mixed electoral systems: a conceptual and empirical survey: Electoral Studies 18 (3). 341-366.
- Monroe, Burt L. (2003): Book review. Mixed-Member Electoral Systems: The Best of Both Worlds?; in: Perspectives on Politics 1. 442-443.
- Moser, Robert G. (1995): The Impact of the Electoral System on Post-Communist Party Development: the Case of the 1993 Russian Parliamentary Elections; in: Electoral Studies 14 (4). 377-398.
- Moser, Robert (2001): Unexpected Outcomes. Electoral Systems, Political Parties, and Representation in Russia. University of Pittsburgh Press, Pittsburgh.
- Moser, Robert G.; Scheiner, Ethan (2004): Mixed electoral systems and electoral system effects: controlled comparison and cross-national analysis; in: Electoral Studies 23 (4). 575-599.
- Nikolenyi, Csaba (2004): Strategic Co-ordination in the 2002 Hungarian Election; in: Europe-Asia Studies 56 (7). 1041-1058.
- Nohlen, Dieter (2004): Wahlrecht und Parteiensystem. Leske + Budrich, Opladen.

- Nohlen, Dieter; Kasapović, Mirjana (1996): Wahlsysteme und Systemwechsel in Osteuropa. Leske + Budrich, Opladen.
- OSCE Office for Democratic Institutions and Human Rights (2001): Republic of Albania. Parliamentary Elections 24 June-19 August 2001. OSCE/ODIHR, Warsaw, 11 October 2001.
- OSCE Office for Democratic Institutions and Human Rights (2005a): Republic of Albania. Parliamentary Elections 2005. OSCE/ODIHR Needs Assessment Mission Report, 12-16 April 2005. OSCE/ODIHR, Warsaw, 29 April 2005.
- OSCE Office for Democratic Institutions and Human Rights (2005b): Republic of Albania. Parliamentary Elections 3 July 2005. OSCE/ODIHR Election Observation Mission Report. OSCE/ODIHR, Warsaw, 7 November 2005.
- Rae, Douglas W. (1971): The political consequences of electoral laws. Yale University Press, New Haven, London.
- Sartori, Giovanni (1968): Political Development and Political Engineering; in: Public Policy 17: 261-98.
- Schiemann, John W. (2001): Hedging Against Uncertainty: Regime Change and the Origins of Hungary's Mixed-Member System; in: Shugart, Matthew Soberg; Wattenberg, Martin P. (eds.): Mixed-Member Electoral Systems. The Best of Both Worlds? Oxford University Press, Oxford. 231-255.
- Schoen, Harald (1999): Split voting in German federal elections 1953-90: an example of sophisticated balloting; in: Electoral Studies 18 (4). 473-796.
- Shugart, Matthew Soberg (2001): "Extreme" Electoral Systems and the Appeal of the Mixed-Member Alternative; in: Shugart, Matthew Soberg; Wattenberg, Martin P. (eds.): Mixed-Member Electoral Systems. The Best of Both Worlds? Oxford University Press, Oxford. 25-51.
- Shugart, Matthew Soberg; Wattenberg, Martin P. (2001a): Mixed-Member Electoral Systems: A Definition and Typology; in: Shugart, Matthew Soberg; Wattenberg, Martin P. (eds.): Mixed-Member Electoral Systems. The Best of Both Worlds? Oxford University Press, Oxford. 9-24.
- Shugart, Matthew Soberg; Wattenberg, Martin P. (2001b): Conclusion: Are Mixed-Member Systems the Best of Both Worlds?; in: Shugart, Matthew Soberg; Wattenberg, Martin P. (eds.): Mixed-Member Electoral Systems. The Best of Both Worlds? Oxford University Press, Oxford. 571-596.
- Taagepera, Rein (2007, forthcoming): The Logic of Simple Electoral Systems. Forthcoming in: Oxford University Press, Oxford.
- Taagepera, Rein; Shugart, Matthew S. (1989): Seats and Votes. The Effects and Determinants of Electoral Systems. Yale University Press, New Haven, London.
- Thames, Frank C. (2005): A House Divided. Party Strength and the Mandate Divide in Hungary, Russia, and Ukraine; in: Comparative Political Studies 38 (3). 282-303.
- Tiefenbach, Paul (2006): Kumulieren, Panaschieren, Mehrmandatswahlkreise - mehr Demokratie beim Wahlrecht; in: Zeitschrift für Parlamentsfragen 1/2006: 115-125.