

# VOTES FROM SEATS

Logical Models of Electoral Systems

MATTHEW S. SHUGART  
REIN TAAGEPERA

# SERVIZIO SPECIALE ELETTORALE

## MILANO-CITTA' COMUNALI 1960

POPOLAZIONE 1.495.409  
ELETTORI / Maschi 497.403  
1.080.595 / Femmine 508.932

### RISULTATI COMUNALI 1956

PALAZZO MARINO 80 CONSIGLIERI

ELETTORI 968.044

VOTANTI 884.061

VOTI VALIDI 857.682

#### LISTE VOTI % SEGGI

DC	258.435	26,15	25
PSI	172.380	20,08	16
PCI	157.030	18,30	15
PSDI	102.522	11,94	10
PLI	53.150	6,18	5
SI	50.403	5,88	4
NM	34.870	4,07	3
PRI-RAD	13.354	1,56	1
MP	10.457	1,22	1
NC	2.833	0,33	-
Q	2.248	0,26	-
857.682			80

## MILANO

COMUNALI SEZ: 1623 Scrutinale

### PARZIALI

PSI	PCI	PSDI
PLI	PRI	MSI
PSDI	MCI	DC

PROVINCIALI SEZ: 1623 Scrutinale

### PARZIALI

PSI	PCI	PSDI
PLI	PRI	MSI
PSDI		DC

### PERCENTUALI VOTI SCRUTINALE

COMUNALI	PSI	PCI	PSDI	PLI
	MCI	PRI	MSI	PSDI
			DC	

## MILANO POLITICHE 1958

### RISULTATI per la CAMERA

ELETTORI 1.021.140

VOTI VALIDI 949.741

#### LISTE VOTI %

DC	285.048	30,01	
PCI	190.001	20,01	
PSI	174.027	18,32	
PLI	88.337	9,30	
PSDI	86.091	9,07	
MSI	53.283	5,61	
PMP	26.057	2,74	
PNM	23.209	2,44	
PRI-RAD	16.003	1,69	
COM	3.858	0,41	
MARP	2.361	0,25	
P.N.LAV.	785	0,08	
CED	681	0,07	
949.741			

## PROVINCIALI CITTA' PARZIALI

DC	DC	DC
PCI	PCI	PCI
PSI	PSI	PSI
PLI	PLI	PLI
PSDI	PSDI	PSDI
MSI	MSI	MSI
PSDI	PSDI	PSDI

PROVINCIALI PARZIALI

#### LISTE VOTI % SEGGI

DC	DC	DC
PCI	PCI	PCI
PSI	PSI	PSI
PLI	PLI	PLI
PSDI	PSDI	PSDI
MSI	MSI	MSI
PSDI	PSDI	PSDI

### COMUNALI

DC	PSI	PSDI	MSI
PCI	PLI	PSDI	ALTRA LISTA

## MILANO PROVINCIALE 1960

POPOLAZIONE 2.846.005  
ELETTORI / Maschi 981.000  
1.865.005 / Femmine 1.095.705

### RISULTATI PROVINCIALI 1956

PALAZZO ISIMBARDI 45 CONSIGLIERI

ELETTORI 1.856.184

VOTANTI 1.739.971

VOTI VALIDI 1.644.420

#### LISTE VOTI % SEGGI

DC	668.786	40,65	23
PCI-PSI	590.989	35,94	16
PSDI	175.025	10,64	3
PLI	76.348	4,64	1
MSI-PNM	104.466	6,35	2
PRI-RAD	20.551	1,25	-
PNC	6.130	0,38	-
UQ	2.125	0,13	-
1.644.420			45

# BANC



*"Votes from Seats* is a highly original and superb work of scholarship. It is unquestionably the most important and most advanced analysis of electoral systems produced to date – and likely to remain at the top of the field for many years."

AREND LIJPHART

Professor Emeritus of Political Science UC San Diego

*"Votes from Seats* is at the cutting edge of the study of electoral systems. The approach of Shugart and Taagepera leads to a remarkably precise set of predictions about how the number of seats in a parliament and the number of MPs elected in each district interact to produce the number of political parties in a parliament. Countries sometimes stray from these predictions, but the predictions are astonishingly accurate, on average. As a result, this book is a must-read for comparative political scientists as well as for electoral system reformers and designers across the world."

SIMON HIX

Harold Laski Professor of Political Science, London School of  
Economics and Political Science

*"An outstanding contribution ... It delivers a number of relevant results which must be of interest to non-specialists and to practitioners of electoral systems and elections."*

JOSEP M. COLOMER

Adjunct Professor, Department of Government Georgetown University

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SHUGART  
TAAAGEPERA

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CAMBRIDGE

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## *Logical Models of Electoral Systems*

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## Votes from Seats

Take the number of seats in a representative assembly and the number of seats in districts through which this assembly is elected. From just these two numbers, the authors of *Votes from Seats* show that it is possible to deduce the number of parties in the assembly and in the electorate, as well as the size of the largest party. Inside parties, the vote distributions of individual candidates likewise follow predictable patterns. Four laws of party seats and votes are constructed by logic and tested, using scientific approaches rare in social sciences. Both complex and simple electoral systems are covered, and the book offers a set of “best practices” for electoral system design. The ability to predict so much from so little, and to apply to countries worldwide, is an advance in the systematic analysis of a core institutional feature found in any democracy, and points the way towards making social sciences more predictive.

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## Preface and Acknowledgments

This book, *Votes from Seats*, does two things that look impossible, one in electoral studies and the other for political science more broadly.

It multiplies together the number of seats in the representative assembly (assembly size) and the number of seats in individual electoral districts (district magnitude) through which this assembly is elected. From this “seat product” it deduces the number of parties in the assembly, as well as the size of the largest, testing this logical model more fully than earlier (Taagepera 2007). Then it advances into completely novel terrain, with further logic leading to the prediction of the number of parties receiving votes once we have predicted their seats. This is why the title of the book is *Votes from Seats*. Predicting disproportionality follows.

The same fundamental logic then allows us to make some quantitative predictions for patterns where the seat product would not seem to matter at all: competition in presidential elections and inside the parties. In contrast to most prior scholarship, we find that party systems in presidential democracies are not so different from their parliamentary counterparts. At the level of an individual district, the same output indicators can be deduced from district magnitude, but surprisingly, the size of the nationwide assembly in which a district is “embedded” also matters. This finding reverses the usual way of thinking about how district and national politics connect. Rather than start at the districts and project up to the national level, we use assembly size, in conjunction with district magnitude, to predict district-level outputs.

All this vastly expands our understanding and predictive ability as compared to our earlier work on electoral, party, and presidential systems (Taagepera and Shugart 1989a and 1993; Shugart and Carey 1992; Taagepera 2007; Samuels and Shugart 2010). It takes into account the efforts of many other researchers such as Lijphart (1994); Reed (1990, 2003); Cox (1997); Clark and Golder (2006); and Hicken and Stoll (2011).



It is now possible to understand how design and reform of electoral systems will play out in practice. Actual worldwide averages fit the book's predictions remarkably well. They supply a benchmark for assessing an individual country: If a country's party constellations differ markedly from those expected on the basis of their assembly and district sizes, it would be time to look for which other country-specific political factors are at play.

This is the book's *impossible-looking* contribution to electoral studies: the ability to predict so much from so little. How is this possible? The answer leads us to the book's broader contribution to social science.

There is a huge difference between "understanding something," something "explaining" something else, having "an impact" on it, and quantitatively predicting the size of this something else. "Explaining" may mean retroactive understanding, with no hint for the future. "Having an impact" implies altering it in some direction, to an undefined extent. "Quantitatively predicting" means: "If this factor has this value, then, *ceteris paribus*, this other factor has that value," within a range of likely variation. Such prediction may come from empirical knowledge. It rises to the highest level of scientific law when it is also grounded in logic. Then it, of course, also explains.

We establish a network of "quantitatively predictive logical models." These models (Taagepera 2008) start with logical thinking about observations, rather than fitting data by regression techniques. The resulting equations connect a few variables at a time (rather than numerous input variables and "controls") and then connect these connections with each other. Having connections among connections is a hallmark of any developed science. In electricity, for instance, a network of equations connects factors such as electric charge, voltage, current intensity, resistance, force, and power. Philosophical arguments abound why this would be impossible in political science, or social sciences more generally. In *Votes from Seats* we do not argue whether it can be done; we just do it. By presenting and testing a set of interconnected quantitative connections among various factors, this book sets an example for a more *scientific* approach to society and politics. We hope this allows it to set a methodological standard for social science beyond the specific topics of electoral and party systems.

#### HOW THE BOOK WAS POSSIBLE

We have been working together on topics concerning electoral systems and quantitative logical modeling since Shugart was an undergraduate and then a graduate student at the University of California, Irvine, longer ago than either of us would care to remember. It thus would be an understatement to say that we both have written on electoral systems before (including Taagepera 1972, 1973, 1986, 2007; Taagepera and Shugart 1989a, 1989b, 1993; Shugart 1988,

2005a; Shugart and Carey 1992; Bergman, Shugart, and Watt 2013; Li and Shugart 2016). Yet, as the preceding overview suggests, we have extended our separate and joint work in new directions and uncovered new things along the way that find their place in this book for the first time. Moreover, we have developed findings and methods that call into question, in various ways, those of other prominent scholars in the subject area.

This book would not have been possible even a few short years ago, because the large datasets we have at our disposal simply did not exist. We owe a massive debt of gratitude to the teams of scholars who have done the work of collecting such data and providing the public good of letting other scholars use them. Following in their footsteps, we will be making public two even more expanded datasets, which we have used for the core quantitative tasks of this book.

The nationwide dataset is Li and Shugart (n.d.), “National Party Systems Dataset.” This starts from Bormann and Golder (2011), “Democratic Electoral Systems Around the World, 1946-2011,” and is supplemented with variables from Carey and Hix (2011), as well as several additional variables that appear in our dataset for the first time. The district level dataset is Belden and Shugart (n.d.), “District-Level Party Systems Dataset.” This builds upon the Constituency Level Electoral Archive (CLEA; Kollman et al. 2016), but extends to additional countries and variables not originally in the CLEA.

Candidate-level votes for assembly elections are from Shugart’s dataset, “The Intra-Party Dimension of Representation,” except for data from Taiwan (generously provided by Nathan Batto) and Japan (from the “Party Personnel” dataset, collected in collaboration with Ellis Krauss and Robert Pekkanen). Shugart acknowledges two National Science Foundation grants that made his data collection possible (SES-0452573 and SES-0751662). Candidate-level data on Finland that we use in Chapters 6 and 14 were greatly improved through collaboration with Åsa von Schoultz.

Absolutely indispensable research assistance was provided by Yuhui Li (who was primarily responsible for managing the nationwide data), Nathan Rexford (who greatly enhanced our ability to analyze the intraparty data), and Cory Belden (who was the primary manager of our district-level dataset). Roi Zur provided extensive and incisive comments as well as assistance in producing the final manuscript. For support that made it possible to employ these students as researchers and data managers, Shugart acknowledges the Department of Political Science and the Dean’s Office of the Division of Social Sciences at the University of California, Davis. These student researchers already have become valued colleagues and they cannot be adequately compensated either by the funding they received or by words in this preface. The book would have been impossible without them. We are deeply grateful.

We thank the anonymous reviewers for Cambridge University Press, and our acquisitions editor, Robert Dreesen for comments and encouragement, and Claire Sissen and Sri Hari Kumar Sugumaran for their expert management of the production. Scott Mainwaring helpfully provided comments on several chapters, while JD Mussel and Zirui Yang read the entire draft, helping us improve the final product. As usual, errors will remain. We trust our readers and critics will find them, and we hold no one but ourselves responsible for their having made it into print.

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