



Redistribution in Democracies: Does the Median Voter get what she wants?

Frank Neher, 3rd LCSR conference, 12.11.2013

- 1 Introduction
- 2 Preferences for Redistribution
- 3 A Measure of Median Voter Satisfaction
- 4 Does the Median Voter get what she wants?
- 5 Desired Redistribution in Democracies
- 6 Appendix

Research Question:

- Do Democracies implement the preference of the median voter?
- Does the Median Voter (MV) Theorem (Downs, 1957) provide guidance to the understanding of cross country differences in redistributive preferences and politics?

↔ Democracies implement the preference of the median voter.

↔ When do democracies not implement the MV preference?

↔ MV satisfaction and desired redistribution do not depend on inequality or size of the welfare state.

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Introduction - Overview

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- WVS/EVS: Four-wave Aggregate v.20060423, WVS 2005, EVS 2008
- Auxiliary Data: Polity IV, Freedom House (FH), Database of Political Institutions (DPI), Quality of Government Data (QoG), World Development Indicators (WDI), Worldwide Governance Indicators (WGI)

There is a large literature evaluating determinants of preferences for redistribution.

Survey measures for redistributive preferences are provided by:

- **ISSP**: used by: Corneo (2001), Corneo and Grüner (2002), Guillaud (2008).
- **ESS**: used by: Rueda and Pontusson (2010), Luttmer and Singhal (2010), Jaeger (2008), Senik et al. (2009), Lübker (2007).
- **GSS**: used by: Alesina and La Ferrara (2005), Keely and Tan (2008), Guiso et al. (2006).
- **GSS**: used by: Luttmer (2001), Alesina and La Ferrara (2005), Keely and Tan (2008).

Variable E035 contains response to the following question:

Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between.

Sentence:

Incomes should be made more equal (1)

vs.

We need larger income differences as incentives (10)

used by Murthi and Tiongson (2008), Shayo (2009), Klor and Shayo (2010)

Preferences for Redistribution - Descriptive Statistic

equal_income	Freq.	Percent	Cum.
incomes more equal	43,028	13.32	13.32
2	18,613	5.76	19.09
3	24,776	7.67	26.76
4	21,671	6.71	33.47
5	40,407	12.51	45.98
6	26,540	8.22	54.20
7	33,417	10.35	64.54
8	42,555	13.18	77.72
9	22,859	7.08	84.80
incentives to individual efforts	49,094	15.20	100.00
Total	322,960	100.00	

Preferences for Redistribution - The Median Voter Approach

Model by Meltzer & Richard (1981):

- individuals sorted by skill or market income
- income distribution is positively skewed: mean income $>$ median income
- linear tax t with fixed transfer z
- increase in inequality \rightarrow the median income holder prefers higher tax rate t

Other models use MVT to implement distributive preferences: Alesina and Angeletos (2005), Alesina and Rodrik (1994), Bénabou and Tirole (2006), Cervellati et al. (2010), Corneo and Grüner (2000), Lindbeck et al. (1999), Persson and Tabellini (1994) and Piketty (1995).

Preferences for Redistribution - The Median Voter Approach

Empirical validation of MVT in the guise of Meltzer and Richard with negative or mixed results (e.g. Perotti 1996, Milanovic 2000).

Preferences for redistribution also hinge on various non-pecuniary motives

- fairness
- social status
- identity
- beliefs about both the incentive costs of redistribution
- beliefs about the prospects of own income mobility

See e.g. Alesina and Angeletos (2005), Corneo and Grüner (2002), Fong (2001), Klor and Shayo (2010), Luttmer (2001), Luttmer and Singhal (2011), Shayo (2011).

Preferences for Redistribution - The Median Voter Approach

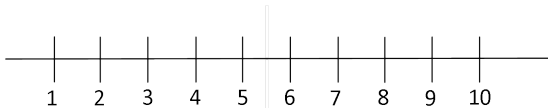
- ⇒ Redistribution does not cater to the preferences of the individual with median income.
- ⇒ Still the tenet that democracies implement the distributive preferences of the median voter might uphold.

A Measure of Median Voter Satisfaction

Incomes should be made more equal (1)

vs.

We need larger income differences as incentives (10)

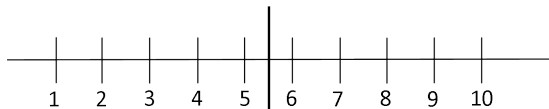


A Measure of Median Voter Satisfaction

Incomes should be made more equal (1)

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A Measure of Median Voter Satisfaction

Two measures: $\mathit{delta_m}$ and $\mathit{Delta_m}$

$$\mathit{delta_m} = \begin{cases} \mathit{median_r} - 6 & \text{if } \mathit{median_r} > 5 \\ \mathit{median_r} - 5 & \text{if } \mathit{median_r} < 6 \end{cases}$$

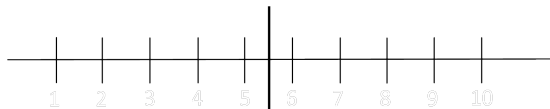
$$\mathit{Delta_m} = |\mathit{delta_m}|$$

$\mathit{Delta_m}$: (Dis-)Satisfaction of the median voter with the implemented policy

$\mathit{delta_m} > 0$: median voter wants less redistribution

$\mathit{delta_m} < 0$: median voter wants more redistribution

A Measure of Median Voter Satisfaction

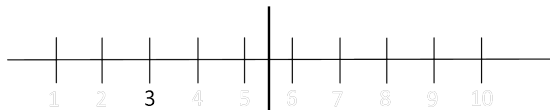


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A Measure of Median Voter Satisfaction

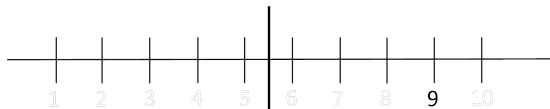


Median response in country x is 3

$$\text{delta}_m = -2$$

$$\text{Delta}_m = 2$$

A Measure of Median Voter Satisfaction



Median response in country x is 9

$$\text{delta}_m = 3$$

$$\text{Delta}_m = 3$$

A Measure of Median Voter Satisfaction

Median response and *delta_m*:

med_equalinc	Freq.	Percent	Cum.	delta_m	Freq.	Percent	Cum.
2	2	0.87	0.87	-3	2	0.87	0.87
3	11	4.80	5.68	-2	11	4.80	5.68
4	14	6.11	11.79	-1	14	6.11	11.79
5	62	27.07	38.86				
5.5	1	0.44	39.30	0	113	49.34	61.14
6	50	21.83	61.14				
7	50	21.83	82.97	1	50	21.83	82.97
7.5	1	0.44	83.41				
8	26	11.35	94.76	2	27	11.79	94.76
9	11	4.80	99.56	3	11	4.80	99.56
10	1	0.44	100.00	4	1	0.44	100.00
Total	229	100.00		Total	229	100.00	

Sample of up to 96 countries with 1 to 5 observations across time

A Measure of Median Voter Satisfaction

Median response and *delta_m*:

med_equalinc	Freq.	Percent	Cum.	delta_m	Freq.	Percent	Cum.
2	2	0.87	0.87	-3	2	0.87	0.87
3	11	4.80	5.68	-2	11	4.80	5.68
4	14	6.11	11.79	-1	14	6.11	11.79
5	62	27.07	38.86	0	113	49.34	61.14
5.5	1	0.44	39.30				
6	50	21.83	61.14				
7	50	21.83	82.97	1	50	21.83	82.97
7.5	1	0.44	83.41				
8	26	11.35	94.76	2	27	11.79	94.76
9	11	4.80	99.56	3	11	4.80	99.56
10	1	0.44	100.00	4	1	0.44	100.00
Total	229	100.00		Total	229	100.00	

Sample of up to 96 countries with 1 to 5 observations across time

Two measures of democracy:

Polity IV

polity_7: 1 if $\text{polity} \geq 7$

Freedom House

political right (*pr*) and civic liberties (*cl*)

free: 1 if $\frac{\text{pr} + \text{cl}}{2} \leq 2.5$

See Brückner und Ciccone (2011), Acemoglu et al. (2009), Benhabib et al. (2011) and Esteban et al. (2012) for discussion.

For robustness checks *democ_10*, *freedom_2*, *democracy* and others.

Comparing both measures of democracy:

	free	0	1	Total
polity_7				
0		55	3	58
1		22	140	162
Total		77	143	220

→ *free_polity*: 1 if *polity_7* = 1 and *free* = 1

Does the Median Voter get what she wants?

Desired redistribution of the MV (delta_m) in democracies:

polity_7				free			
delta_m	0	1	Total	delta_m	0	1	Total
-3	0	2	2	-3	1	1	2
-2	1	10	11	-2	2	9	11
-1	1	13	14	-1	2	12	14
0	18	93	111	0	26	87	113
1	18	29	47	1	21	29	50
2	13	14	27	2	16	11	27
3	6	3	9	3	8	3	11
4	1	0	1	4	1	0	1
Total	58	164	222	Total	77	152	229

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polity_7				free			
delta_m	0	1	Total	delta_m	0	1	Total
-3	0	2	2	-3	1	1	2
-2	1	10	11	-2	2	9	11
-1	1	13	14	-1	2	12	14
0	18	93	111	0	26	87	113
1	18	29	47	1	21	29	50
2	13	14	27	2	16	11	27
3	6	3	9	3	8	3	11
4	1	0	1	4	1	0	1
Total	58	164	222	Total	77	152	229

Does the Median Voter get what she wants?

Satisfaction of the MV (*Delta_m*) in democracies:

polity_7				free			
Delta_m	0	1	Total	Delta_m	0	1	Total
0	18	93	111	0	26	87	113
1	19	42	61	1	23	41	64
2	14	24	38	2	18	20	38
3	6	5	11	3	9	4	13
4	1	0	1	4	1	0	1
Total	58	164	222	Total	77	152	229

Does the Median Voter get what she wants?

Non-parametric test for statistical relation between democracy and MV satisfaction (Delta_m):

Delta_m		polity_7	free	free_polity
Spearman's	Coefficient	-0.2497	-0.2745	-0.2613
	p-value	0.0002	0.0000	0.0001
Wilcoxon	p-value	0.0002	0.0000	0.0001
Chi-Squared	p-value	0.003	0.001	0.002
Fisher's exact	p-value	0.002	0.000	0.001

Does the Median Voter get what she wants?

Robustness: Non-parametric test for statistical relation between democracy and MV satisfaction (Delta_m):

Delta_m		freedom_2	democ_10	democracy	freedom
Spearman's	Coefficient	-0.2347	-0.2803	-0.2229	-0.3040
	p-value	0.0003	0.0000	0.0021	0.0000
Wilcoxon	p-value	0.0004	0.0000	0.0022	xxx
Chi-Squared	p-value	0.005	0.001	0.018	0.000
Fisher's exact	p-value	0.002	0.000	0.014	xxx

Delta_m		cl	pr	chga_demo	van_index
Spearman's	Coefficient	-0.2959	-0.2950	-0.1446	-0.2754
	p-value	0.0000	0.0000	0.0297	0.0000
Wilcoxon	p-value	xxx	xxx	0.0300	xxx
Chi-Squared	p-value	0.000	0.000	0.073	xxx
Fisher's exact	p-value	xxx	xxx	0.077	xxx

Does the Median Voter get what she wants?

Ordered logit estimations of the relation between democracy and MV satisfaction:

Delta_m	(1)	(2)	(3)	(4)	(5)	(6)
polity_7	-1.062** (-3.19)	-1.091** (-3.19)				
free			-1.107*** (-3.68)	-1.146*** (-3.66)		
free_polity					-1.035*** (-3.49)	-1.087*** (-3.50)
wave_3		-0.665 (-1.61)		-0.646 (-1.64)		-0.691+ (-1.76)
wave_4		0.275 (0.70)		0.173 (0.44)		0.275 (0.69)
wave_5		-0.426 (-1.12)		-0.485 (-1.29)		-0.442 (-1.16)
wave_6		-0.275 (-0.65)		-0.308 (-0.76)		-0.286 (-0.66)
N	222	222	229	229	220	220

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Does the Median Voter get what she wants?

Robustness: Ordered logit estimations of the relation between democracy and MV satisfaction:

Delta_m	(1)	(2)	(3)	(4)	(5)	(6)
democracy	-1.004** (-2.93)					
freedom_2		-0.964*** (-3.43)				
freedom			-0.161** (-3.27)			
cl				-0.344*** (-3.52)		
pr					-0.277** (-3.04)	
chga_demo						-0.678+ (-1.89)
N	189	229	229	229	229	226

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Does the Median Voter get what she wants?

↔ Democracies implement the preference of the median voter to a large degree.

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↔ What is the effect of income inequality / government intervention in democracies on MV-satisfaction?

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Why might the MVT not hold?

What factors do we expect to influence satisfaction of the MV in democracies?

- Voter turnout
- Salient non-economic issues (religion, xenophobia, racism) (e.g. Roemer and Lee, 2006)
-

Why might the MVT not hold?

Ordered logit on the sample of democracies:

Delta_m	(1)	(2)	(3)	(4)	(5)	(6)
van_part	-0.034+ (-1.69)			-0.021 (-0.91)	-0.021 (-0.93)	-0.012 (-0.50)
mean_religion		-0.393* (-2.10)		-0.334+ (-1.72)		-0.253 (-1.31)
mean_dontlike_race			4.692* (2.56)		4.025* (2.1)	3.399+ (1.83)
N	138	138	134	136	132	132

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

van_part: voter turnout

mean_religion: mean of variable F028, higher values indicate less frequent participation at religious services

mean_dontlike_race: ratio of respondents that don't like people from other race as neighbours

MV-Satisfaction, Income Inequality and Government Intervention

Does the level of income inequality or the size of the welfare state influence MV-satisfaction?

Delta_m	(1)	(2)	(3)	(4)	(5)	(6)
gini_net_swiid	-0.013 (-0.54)					
gini_gross_swiid		-0.009 (-0.33)				
redist			0.003 (0.18)			
socexp_gdp				0.004 (0.1)		
soc_exp_wdi					0.004 (0.25)	
wdi_ge						-0.036 (-1.48)
N	127	127	121	74	85	97

t statistics in parentheses; ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Desired Redistribution in Democracies

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delta_m		polity_7	free	free_polity
Spearman's	Coefficient	-0.3586	-0.3336	-0.3416
	p-value	0.0000	0.0000	0.0000
Wilcoxon	p-value	0.0000	0.0000	0.0000
	Chi-Squared	p-value	0.000	0.000
Fisher's exact	p-value	0.000	0.000	0.000

Desired Redistribution in Democracies

delta_m	-1	-2	-3	-4	-5	-6
polity_7	-1.587*** (-4.36)	-1.574*** (-4.17)				
free			-1.395*** (-4.03)	-1.428*** (-4.03)		
free_polity					-1.407*** (-4.15)	-1.436*** (-4.07)
_lwave_3		-0.689+ (-1.88)		-0.733* (-2.11)		-0.769* (-2.15)
_lwave_4		-0.539 (-1.35)		-0.637+ (-1.65)		-0.58 (-1.40)
_lwave_5		-0.524 (-1.34)		-0.645+ (-1.71)		-0.594 (-1.50)
_lwave_6		-1.272** (-2.96)		-1.290** (-3.17)		-1.365** (-3.11)
N	222	222	229	229	220	220

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Desired Redistribution in Democracies - Survey Measure

Is redistribution 'an essential characteristic of democracy'? (VAR E224)

Governments tax the rich and subsidize the poor.

1 Not an essential characteristic of democracy

10 An essential characteristic of democracy

	Freq.	Percent	Cum.
not essential characteristic of demo	6,649	9.32	9.32
2	2,786	3.91	13.23
3	3,544	4.97	18.2
4	3,439	4.82	23.02
5	8,209	11.51	34.53
6	5,663	7.94	42.47
7	7,708	10.81	53.28
8	9,452	13.25	66.54
9	6,179	8.66	75.2
essential characteristic of demo	17,684	24.8	100
Total	71,313	100	

Desired Redistribution in Democracies

$\text{delta}_m < 1$

delta_m	-1	-2	-3	-4	-5	-6
polity_7	-0.881 (-1.12)	-0.884 (-1.13)				
free			-0.229 (-0.39)	-0.263 (-0.42)		
free_polity					-0.363 (-0.62)	-0.365 (-0.59)
_lwave_3		0.227		0.184		0.25
_lwave_4		-0.22		-0.18		-0.24
_lwave_5		-1.328+ (-1.74)		-1.287 (-1.61)		-1.27 (-1.61)
_lwave_6		-0.048 (-0.05)		-0.101 (-0.11)		-0.022 (-0.02)
		-1.06 (-1.24)		-1.097 (-1.25)		-1.059 (-1.21)
N	138	138	140	140	137	137

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Desired Redistribution in Democracies

$$\text{delta}_m > -1$$

delta_m	-1	-2	-3	-4	-5	-6
polity_7	-1.452*** (-3.95)	-1.470*** (-3.87)				
free			-1.417*** (-4.24)	-1.484*** (-4.34)		
free_polity					-1.398*** (-4.21)	-1.483*** (-4.28)
_lwave_3		-0.865* (-2.02)		-0.911* (-2.25)		-0.983* (-2.38)
_lwave_4		-0.051 (-0.12)		-0.203 (-0.50)		-0.11 (-0.26)
_lwave_5		-0.586 (-1.36)		-0.725+ (-1.71)		-0.687 (-1.55)
_lwave_6		-1.008* (-1.96)		-1.040* (-2.17)		-1.155* (-2.12)
N	195	195	202	202	193	193

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Desired Redistribution in Democracies - Institutions

Full Sample

delta_m1	(1)	(2)	(3)	(4)	(5)	(6)
wbgi_cce	-0.816** (-2.78)					
wbgi_gee		-1.128** (-2.84)				
wbgi_pse			-1.360*** (-3.77)			
wbgi_rle				-1.018** (-3.13)		
wbgi_rqe					-1.248** (-3.16)	
wbgi_vae						-1.788** (-3.12)
N	84	84	84	84	84	84

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Desired Redistribution in Democracies - Institutions

$\text{delta}_m < 1$

delta_m	(1)	(2)	(3)	(4)	(5)	(6)
wbgi_cce	-0.137 (-0.35)					
wbgi_gee		-0.186 (-0.34)				
wbgi_pse			-0.995 (-1.45)			
wbgi_rle				-0.271 (-0.56)		
wbgi_rqe					-0.272 (-0.49)	
wbgi_vae						-0.212 (-0.27)
N	68	68	68	68	68	68

t statistics in parentheses; ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

Desired Redistribution in Democracies - Institutions

$$\text{delta}_m > -1$$

delta_m	(1)	(2)	(3)	(4)	(5)	(6)
wbgi_cce	-1.297** (-2.88)					
wbgi_gee		-1.658** (-3.20)				
wbgi_pse			-1.284** (-3.17)			
wbgi_rle				-1.328*** (-3.49)		
wbgi_rqe					-1.595** (-3.28)	
wbgi_vae						-2.557*** (-3.44)
N	68	68	68	68	68	68

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Constants omitted; SE corrected for clustering at country level

We apply the median voter logic to survey data to obtain new insights from a comparative perspective.

- Democracies tend to implement the redistributive preference of the MV.
- Non-economic salient issues impact the degree of MV satisfaction in democracies.
- Levels of income inequality, actual level of redistribution or size of the welfare state in democracies have no effect on MV satisfaction or the desire for policy change.

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- Democracies tend to implement the redistributive preference of the MV.
- Non-economic salient issues impact the degree of MV satisfaction in democracies.
- Levels of income inequality, actual level of redistribution or size of the welfare state in democracies have no effect on MV satisfaction or the desire for policy change.



Thank you for your attention!

- ISSP: 'It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.'
(1)'Strongly agree' to (5)'Strongly disagree'
used by: Corneo (2001); Corneo and Grüner (2002); Guillaud (2008)
- ESS: 'The government should take measures to reduce differences in income levels?'.
(1)'Agree strongly' to (5)'Disagree strongly'
used by: Rueda and Pontusson (2010); Luttmer and Singhal (2010); Jaeger (2008); Senik et al. (2009); Lübker (2007)

Preferences for Redistribution: Survey Measures

- GSS: 'Some people think that the government in Washington ought to reduce the income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor. Others think that the government should not concern itself with reducing this income difference between the rich and the poor'. (1)'Should' to (7)'Should not' used by: Alesina and La Ferrara (2005); Keely and Tan 2008; Guiso et al. (2006).
- GSS: 'Are we spending too much, too little, or about the right amount on welfare?' used by: Luttmer (2001); Alesina and La Ferrara (2005); Keely and Tan (2008)

Median Income - Median Respondent

median_inc_d			
med_resp1	0	1	Total
0	212,633	56,550	269,183
	78.99	21.01	100.00
1	33,937	9,255	43,192
	78.57	21.43	100.00
Total	246,570	65,805	312,375
	78.93	21.07	100.00

Median Income - Median Respondent

Median Income Earner across preferences

median_inc_d			
equal_income	0	1	Total
incomes more equal	32,047	8,614	40,661
	13.00	13.09	13.02
2	13,932	3,783	17,715
	5.65	5.75	5.67
3	18,398	5,081	23,479
	7.46	7.72	7.52
4	16,591	4,691	21,282
	6.73	7.13	6.81
5	30,290	8,321	38,611
	12.28	12.64	12.36
6	20,263	5,287	25,550
	8.22	8.03	8.18
7	26,141	6,674	32,815
	10.60	10.14	10.51
8	33,373	8,462	41,835
	13.53	12.86	13.39
9	17,802	4,651	22,453
	7.22	7.07	7.19
incentives to individ	37,733	10,241	47,974
	15.30	15.56	15.36
Total	246,570	65,805	312,375
	100.00	100.00	100.00

Median Income - Median Respondent

Median Respondent across income deciles

med_resp1			
income_dec	0	1	Total
1	49,661	6,960	56,621
	18.45	16.11	18.13
2	30,258	5,248	35,506
	11.24	12.15	11.37
3	27,695	3,952	31,647
	10.29	9.15	10.13
4	28,102	4,884	32,986
	10.44	11.31	10.56
5	25,305	4,066	29,371
	9.40	9.41	9.40
6	23,571	3,997	27,568
	8.76	9.25	8.83
7	23,168	4,004	27,172
	8.61	9.27	8.70
8	23,402	3,972	27,374
	8.69	9.20	8.76
9	21,751	3,613	25,364
	8.08	8.36	8.12
10	16,270	2,496	18,766
	6.04	5.78	6.01
Total	269,183	43,192	312,375
	100.00	100.00	100.00