



# Competing Secondary Imperfectives in Croatian: A Corpus Study

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Workshop “Secondary Imperfectives in Slavic”

# o. Outline of the talk

- I. Competing secondary imperfectives (SIs)
- II. Data
- III. Statistical analysis, results and discussion
- IV. Conclusion and further perspectives
- V. References



# I. COMPETING SECONDARY IMPERFECTIVES

Setting the stage: competing SIs

Competing Secondary Imperfectives in Slavic

Competing Secondary Imperfectives in Croatian

Research questions

Study design



# Setting the stage: competing SIs

<i>kopati</i> 'dig'	<i>is-kopati</i> 'dig out, excavate'	<i>is-kop-ava-ti</i>	AVA-SI
		<i>is-kap-a-ti</i>	A-SI
primary imperfective	specialized perfective	secondary imperfective	

- to be noted (wrt morphology)
  - different suffixes: **-ati**, **-am** vs. **-avati**, **-avam**
  - modification of the root vowel (ablaut): **o** > **a** (only **-ati**, **-am**)



# Setting the stage: competing SIs

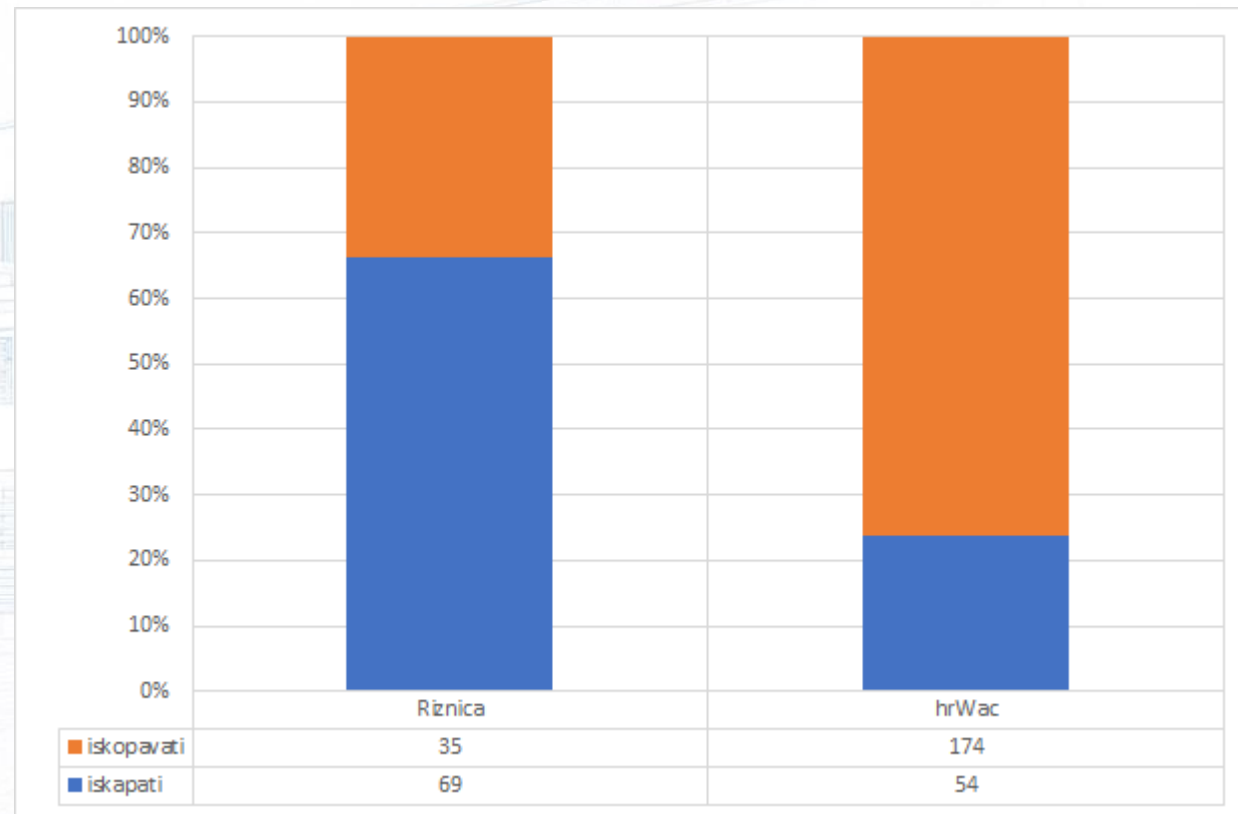
<i>kopati</i> 'dig'	<i>is-kopati</i> 'dig out, excavate'	<i>is-kop-ava-ti</i>	AVA-SI
		<i>is-kap-a-ti</i>	A-SI
primary imperfective	specialized perfective	secondary imperfective	

- to be noted (wrt meaning & usage)
  - no apparent difference in meaning
  - well attested in the consulted corpora



# SIs *iskopavati* vs. *iskapati* in two corpora

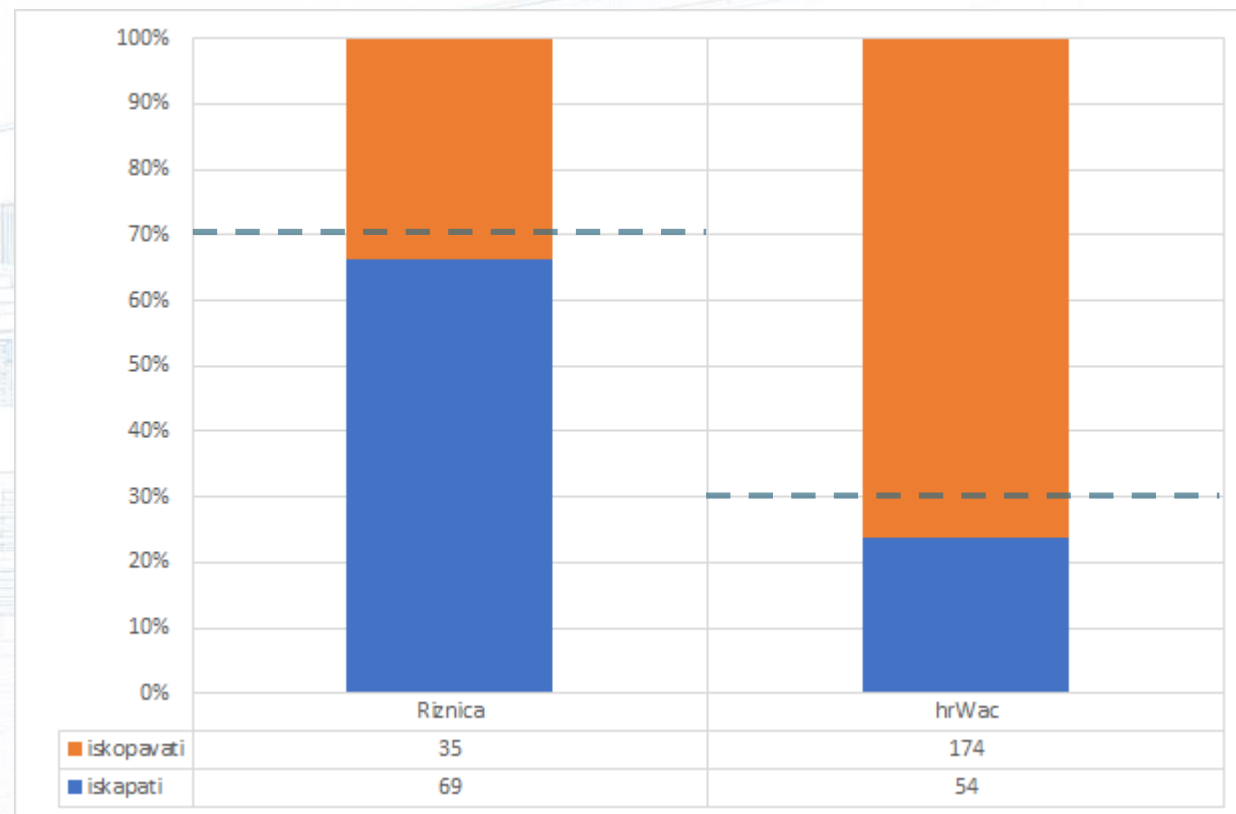
- What counts as a competing form?





# SIs *iskopavati* vs. *iskapati* in two corpora

- What counts as a competing form?
    - proportions between ca. 1:2 and 2:1
    - neither form below 30% or above 69%
- (Bermel & Knittl 2012)



# Competing Secondary Imperfectives in Slavic

- Competition between **A-SI** and **AVA-SI** in Croatian → reflects a cross-Slavic phenomenon (Schuyt 1990: 81, 416, et passim):
- SI suffix **-ati (-aje-)** is being replaced by **-ovati (-uje-)** and its variants
  - R. *-yvat' / -ivat'*, Sln. *-ovati / -evati*, Blg. *-va-*, Cr. *-ava-/-java-/-iva-/-jiva-ti*
- Is this claim borne out by our data?





# Competing Secondary Imperfectives in Slavic

- Russian
  - PF *prigotóvit'* 'prepare' → SI *prigotovljat'* OR *prigotavlivat'*  
(Graudina et al. 2001: 420-422, cf. Pols 1983)
- Czech
  - PF *přepadnout* 'fall over' → SI *přepadat* OR *přepadávat*  
(Štícha et al. 2013: 445)
- Slovenian
  - PF *dvigniti* 'raise' → SI *dvigati* OR *dvigovati*  
(Schuyt 1990: 92-107, doublechecked in SSKJ<sup>2</sup>)



# Competing Secondary Imperfectives in Croatian

- Competing SIs of the *iskopavati / iskapati* type are systematically attested with the:
  - **KOP** root ‘dig’ (10 PFVs)
  - **MOT** root ‘twist, roll’ (8 PFVs)
  - **KOPČ** root ‘buckle (up)’ (7 PFVs)
- In total **25** PFVs, **50** SIs (**25** pairs of verbs)



# SIs from the KOP, MOT and KOPČ roots

- Well attested, most SIs pairs function as true competing forms

PF	<i>iskopati</i> 'dig out' (KOP)	<i>namotati</i> 'roll up' (MOT)	<i>iskopčati</i> 'disconnect' (KOPČ)
SI	<i>iskopavati</i> <i>iskapati</i>	<i>namotavati</i> <i>namatati</i>	<i>iskopčavati</i> <i>iskapčati</i>

- Study of the factors governing the competition between the 25 pairs of SIs derived from the KOP, KOPČ, and MOT roots



# Why only the SIs from KOP, MOT, and KOPČ?

- The SIs derived from these roots can be contrasted with some others:
  - e.g., *izroniti*<sub>PFV</sub> ‘dive out’ → SI *izranjati*<sub>IPFV</sub> vs. SI ??*izronjavati*<sub>IPFV</sub>
- Such marginal SIs are not investigated here
  - questionable acceptability
  - not attested in dictionaries
  - heavily disfavored in frequency counts





# Towards research questions

- The 25 pairs of competing SIs derived from KOP, KOPČ, and MOT:
  - attested in corpora
  - equally acceptable
  - no apparent difference in meaning
- Are there any factors governing the choice between the competing A- and AVA-SIs?



# Suggestions from the literature

- The **AVA-SIs** productive, the **A-SIs** unproductive
  - already mentioned, widely assumed (cf. Schuyt 1990)
- More specific suggestions rarely made





# Suggestions from the literature

- Forms like *iskapati* are more archaic than forms like *iskopavati* (Babić 2002: 519, 526)
  - no data cited, but in line with the observation on productivity of **AVA-SIs** vs. unproductivity of **A-SIs**
  - in the standard variety, A-SIs are sometimes recommended over AVA-SIs variants: *iskapati* vs. *iskopavati* (Hudeček & Mihaljević 2009: 60)
- The nature of language change: innovations arise in the less prestigious form of language?



# Suggestions from the literature

- Graudina et al. (2001: 420-421)
  - new, long **YVA-SI**s more likely with participles (“v pričastnyx formax”)
    - in the 19th c. Russian, **YVA-SI**s considered less prestigious, even inferior (“xarakter ... sniženosti ... prostorečnosti”)
    - nowadays, the choice follows from the preferences of individual PFV verbs (i.e., verb-specific preferences)



# Research questions

RQ1

Do the three roots (*KOP*, *KOPČ*, and *MOT*) behave differently with respect to competing *A-SIs* and *AVA-SIs*?

RQ2

Are verbs whose *A-SIs* have a homonymous PFV verb (from the root *KAP* ‘drip’) more prone to *AVA-SIs*?

*zàkapati*<sub>PFV</sub> ‘to stain’ (homonym)

*zakupáti*<sub>IPFV</sub> ‘to burry’ (A-SI)

*zakupávati*<sub>IPFV</sub> ‘to burry’ (AVA-SI)

NB many speakers pronounce *zàkapati*<sub>PFV</sub> and *zakápati*<sub>PFV</sub> in the same way: *zakâpati*



# Research questions

- RQ1** Do the three roots (*KOP*, *KOPČ*, and *MOT*) behave differently with respect to competing A- and AVA-SIs?
- RQ2** Are verbs whose A-SIs have a homonym PFV verb with the root *KAP* more prone to AVA-SIs?
- RQ3** (Is the realization of the SI as A- or AVA- verb specific?)  
Does the prefix influence the realization of the SI as A- or AVA-?
- RQ4** Does the frequency of a PFV verb influence the realization of its SI as A- or AVA-?
- RQ5** Are competing A- and AVA-SIs equally present in different Croatian varieties, i.e., (sub)corpora reflecting standard and colloquial language use?
- RQ6** Are there any observable diachronic changes regarding competing A- and AVA-SIs in Croatian?





Class	Variable	Levels
Dependent	1. SI variant	A-SI ( <i>iskapati</i> ) AVA-SI ( <i>iskopavati</i> )
	1. Root	KOP KOPČ MOT
Independent	2. Homonym	present (1) ( <i>iskápati</i> IPFV, <i>iskapati</i> PFV) absent (0)
	3. Prefix	iz-, na-, o-, od-, po-, pod-...
	4. Average frequency of the PFV verb	0.03, 0.28, 0.39, 0.49, 0.59...
	5. Subcorpus	colloquial (Forum.hr) standard (Books) standard (Newspapers)
	6. Period	1900-1970 1971-2018



## II. DATA

Corpora of Croatian language

Annotation process

Data preprocessing

KOP, KOPČ, and MOT roots: corpus counts

Raw data





# Corpora of Croatian language

Corpus	Size (Words)	Text age	Text Types	Lemm	PoS	MSD
<i>Riznica</i> Croatian Language Corpus	101 782 863	from the 2 <sup>nd</sup> half of the 19 <sup>th</sup> century onward	Croatian literature, scientific publications, online journals, and newspapers	yes	yes	yes
hrWaC v2.2	1 397 757 548	(crawled in the 21 <sup>st</sup> century)	texts from the top-level domain (.hr)	yes	yes	yes
Forum (subcorpus of hrWaC)	241 694 709	21 <sup>st</sup> century	texts from the forum.hr subdomain	yes	yes	yes



# Annotation process

A	B	C	D	E	F	G	H	I	J
ID	sentence	SI_realisation	root	homonym	prefix	pfv_freq_aver	subcorpus	lemma	pfv_verb
2	Zaista izgleda mnogo lakše lutati po Zemlji Čudesa Vrhovne Trijade negoli mukotrpno prokapat	0	kop	1	pro	1.14	forumhr	prokapat	prokopati
15	na daskama. Zgrizne ga sad drugačiji otkucaj, prokapa kajanje zbog čudnog netomradovanja. ¶ Udrvi se	0	kop	1	pro	1.14	Knjige	prokapat	prokopati
16	pod pokroviteljstvom Vlade RH priprema prokapat, sjeći i uništavati Gacku dolinu. Nakon niza	0	kop	1	pro	1.14	Novine	prokapat	prokopati
17	baš sa tim puškama a kaj se tiče kineza neznam ja to ne volim raskapat niti ih preporučujem da ih ljudi kupuju cij	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
18	ko da nikad grijao nije, isijava. Ja skupio hrabrost i išao raskapat glavu, s onim imbusom. Naravno, pogađate, sad	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
19	što si rekao Mislim kaj nisu zamjenili pumpu vode kad su to raskapali i bila je i već zrela za mjenjanje. I ta " gumica	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
20	i u pravu je kad neda da se tapecirung skida. Ovi limari raskapaju kakve krševe 20 godina stare pa misle tako rasko	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
21	izvode " po starom ", pa kad dođe Elektra, oni bi trebali raskapat i preinačavati takvu instalaciju. U većini slučajev	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
22	kintu jer ti nisi prijatelj ako ga furaš po Hrvatskoj da ti raskapa auto bez kune, a isto tako nije u redu čovjeku dat d	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
23	koštalo oko 500 kn. Isplati li se dati potpuno novi auto da ga raskapaju i stavljaju to u njega? Tip mi kaže da bi to	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
24	? Istina, nema nikakvih dokaza da je piramida, a budale koje raskapaju i kopkaju već su oštetile ilirska nalazišta. To	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
25	industriji? Misli li da bi ti bolje bilo na željeznici raskapat lokomotive, ili u nekoj elektrani skakati po kotlu i	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
26	¶ E hebi ga Supervox.... mislim imaš znanja i sve 5, ali kad već raskapaš glavu zbog jednog, onda je mislim lipov K..	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
27	do tamo da bi spojio žice, jer je skučeno, a da bi išao to raskapat, ima puno posla, tako da mi se nije dalo raditi ¶	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
28	bi dvije različite bregaste ovisno o raspoloženju i pri tom raskapao pola motora i prilagođavao tisucu i jedan paran	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
29	drugog kotača kad ode neki drugi ležaj, nema potrebe raskapat nešto što je ispravno, nije to getriba kad je treba s	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
30	dobro da joj je zabranjeno ici u dnevni boravak i da ne smije raskapat tegle sa cvijecom. Medutim, to je puno jace	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
31	među bila puna nabijenog šljunka pa je trebalo tjedan dana raskapat pneumatskim čekićem ¶ Drugi su mi tražili i	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
32	na 2,6 m. (Zbilja ih nemam gdje drugdje staviti, a sad neću raskapat dnevnu sobu.) Zid iza zvučnika je cigla sa žbu	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
33	nego utapanje u istima. Lakše u smislu da nemaju potrebu raskapat svoju nutrinu nego se zadovolje s mišljenjem	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
34	zahvata na uređenju istih (kako se ne bi trebalo naknadno raskapat ) ¶ Nažalost, pokazalo se da je izvođač neozbil	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
35	kao dobar prijedlog. Neosjećam se dovoljno sposobnim da raskapam pumpu, al pokušat ću napraviti test da vidim c	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
36	. Sto to može biti ¶ Da napomenem da zadnjih dana nista nisam raskapao kuciste, jedino sam nesto malo prespaj	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
37	, koja očito nisu bitna jer ne idu u prilog dnevnoj politici, raskapat u suludoj potrazi za doslovce bilo čim, a vođen	0	kop	0	raz	1.42	forumhr	raskapat	raskopati
38	već ideš mjesec za mjesec pa dokle ti odgovara ¶ Bratić jučer raskapao terasu na potkrovlju ¶ Ja jebala pajsrom p	0	kop	0	raz	1.42	forumhr	raskapat	raskopati



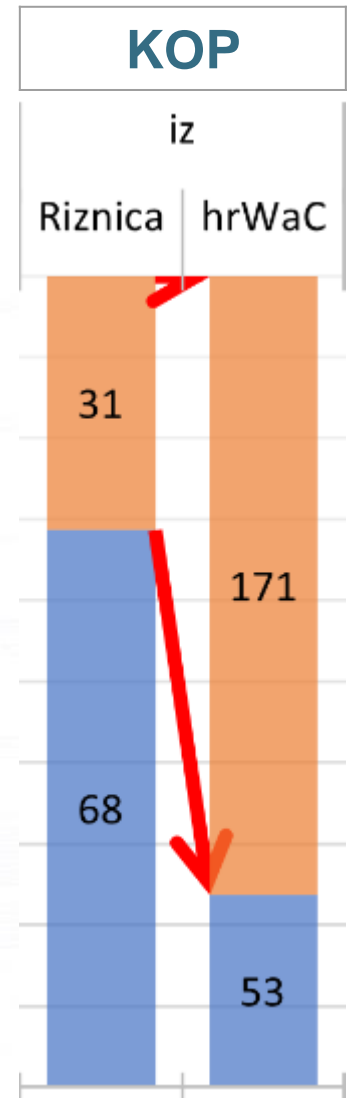
# Data preprocessing

- in total 4300 data points
- removed data (456 sentences)
  - duplicates
  - Serbian sentences
  - sentences with grammatical errors
  - sentences with PFV homonyms
  - sentences from folk tales
  - sentences with deverbal adjectives
  - legal texts



# Raw corpus data:

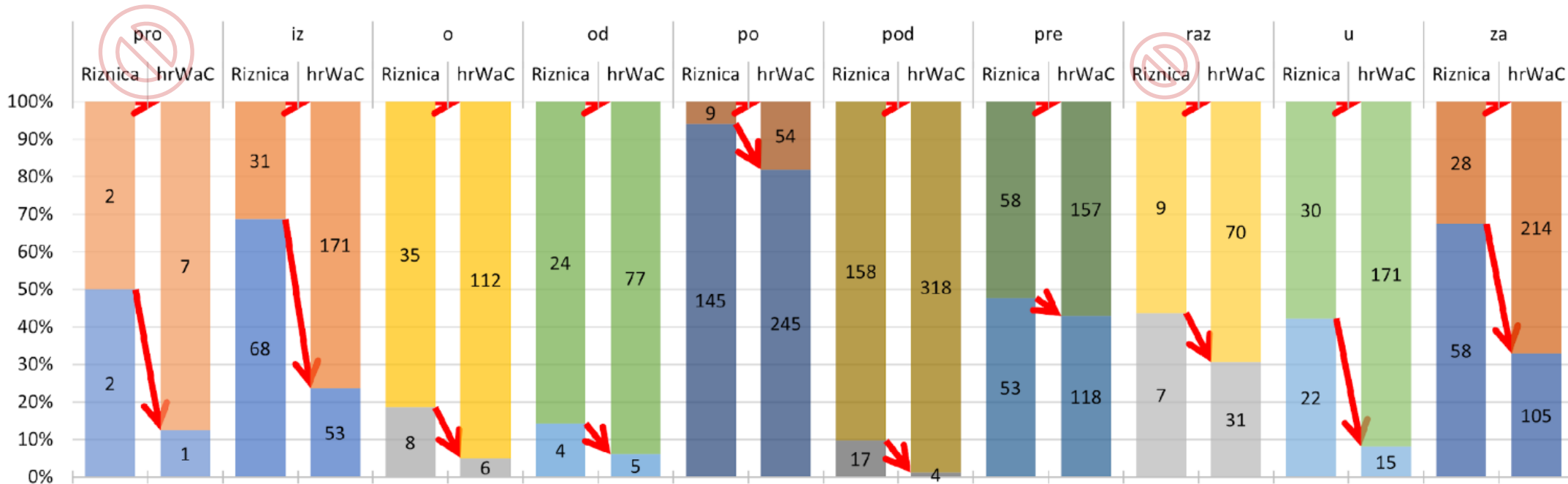
- Three graphs with corpus counts for each verb
  - 1 root : 1 graph
  - 1 column : 2 competing forms : 1 corpus (*Riznica*, *forum.hr*)
  - counts from the two corpora are paired (L: *Riznica*, R: *forum.hr*)
- Upper half: the **AVA-SI** form (e.g., *iskopavati*)
  - trending: the **downwards arrow** (↘)
- Lower half: the **A-SI** form (e.g., *iskapati*)
  - trending: the **upwards arrow** (↗)



root .

Count of \_o\_avati

### ROOT KOP 'DIG'



lemma .

- iskapati
- iskopavati
- okapati
- okopavati
- otkapat
- otkopavati
- pokapati
- pokopavati
- potkapat
- potkopavati
- prekapat
- prekopavati
- prokapat
- prokopavati
- raskapat
- raskopavati
- ukapat
- ukopavati
- zakapat
- zakopavati

prefix . corpus .

+ -

Trend: towards the AVA-SI (↘)

AVA-SI (e.g., iskopavati)

A-SI (e.g., iskapati)

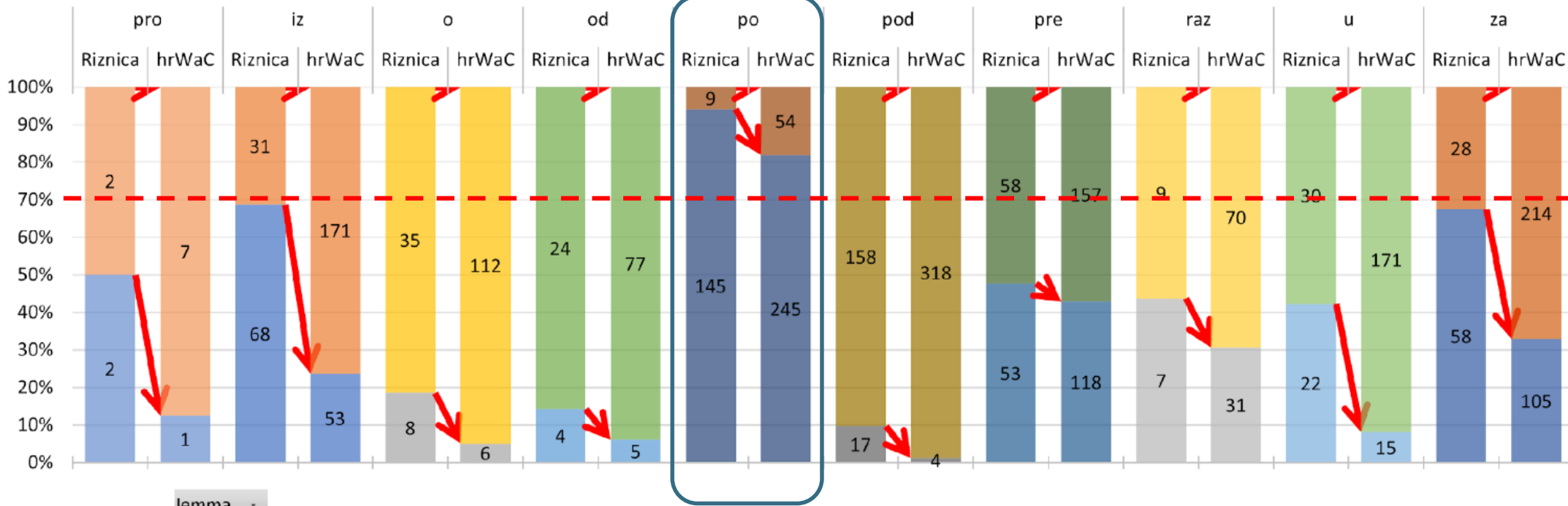




root

Count of \_o\_avati

### ROOT KOP 'DIG'



lemma

- iskapati
- iskopavati
- okapati
- okopavati
- otkapati
- otkopavati
- pokapati
- pokopavati
- potkapati
- potkopavati
- prekapati
- prekopavati
- prokapati
- prokopavati
- raskapati
- raskopavati
- ukapati
- ukopavati
- zakapati
- zakupavati

prefix corpus

+ -

Where the  
**A-SI**  
is  
dominant

**AVA-SI**  
(e.g.,  
*iskopavati*)

**A-SI**  
(e.g.,  
*iskapati*)

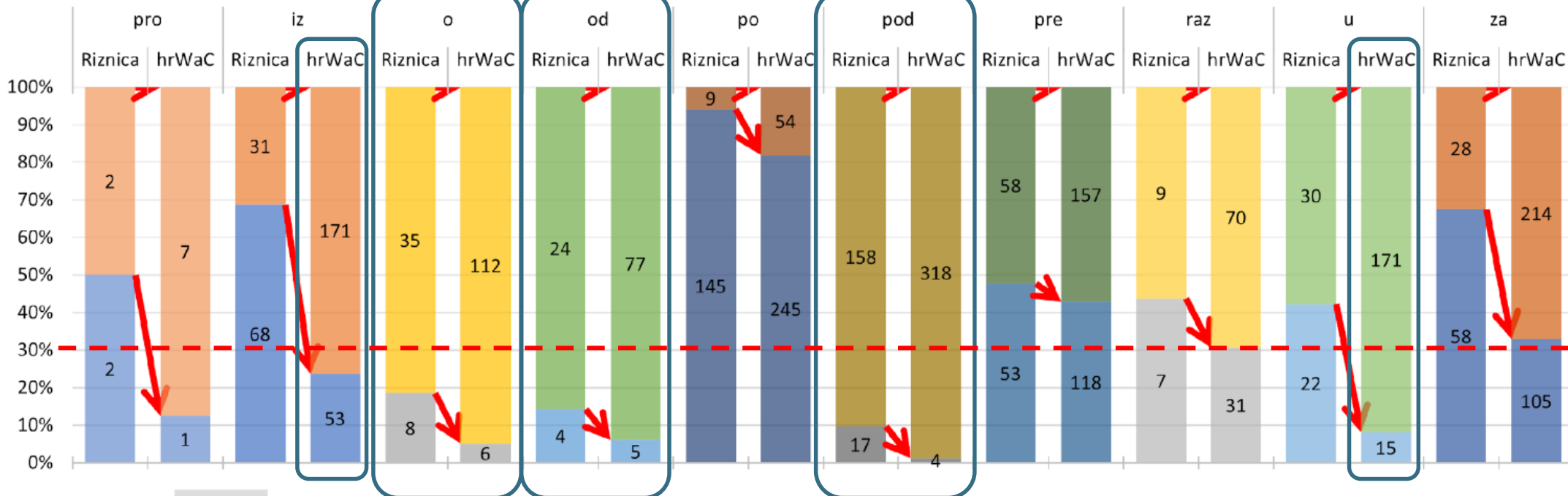




root .

Count of \_o\_avati

### ROOT KOP 'DIG'



lemma .

- iskapati
- iskopavati
- okapati
- okopavati
- otkapati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati
- otkopavati

prefix . corpus .

+ -

Where the **AVA-SI** is dominant

**AVA-SI**  
(e.g., *iskopavati*)

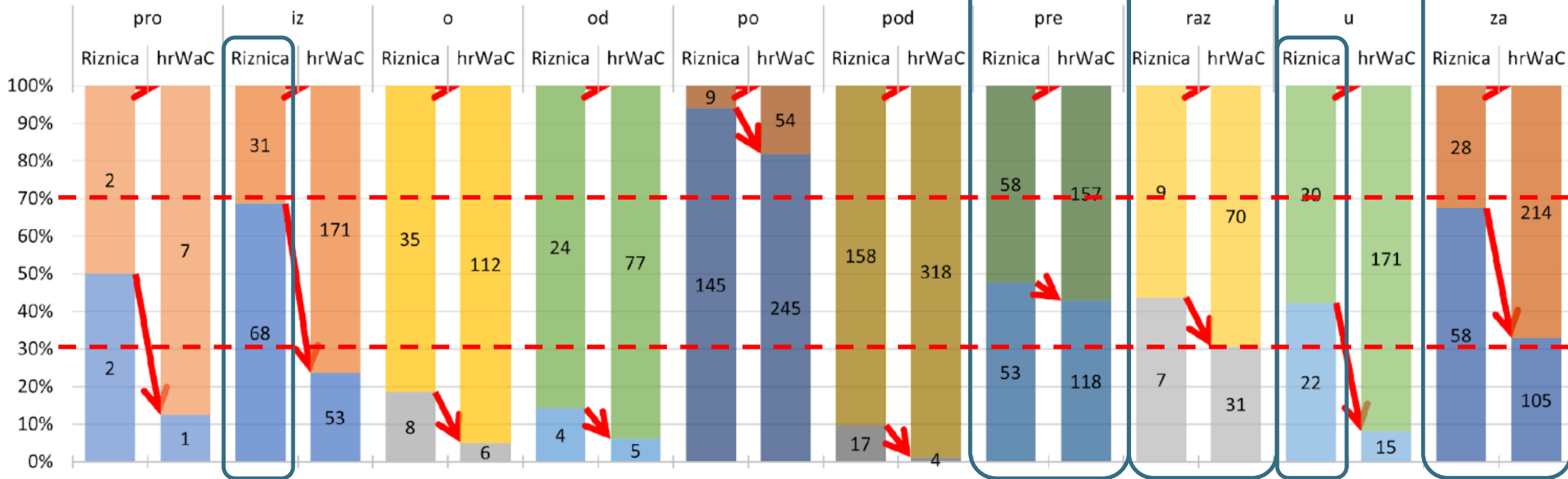
**A-SI**  
(e.g., *iskapati*)



root .

Count of \_o\_avati

### ROOT KOP 'DIG'



lemma .

- iskapati
- iskopavati
- okapati
- okopavati
- otkapati
- otkopavati
- pokapati
- pokopavati
- potkapati
- potkopavati
- prekapati
- prekopavati
- prokapati
- prokopavati
- raskapati
- raskopavati
- ukapati
- ukopavati
- zakapati
- zakupavati

prefix . corpus .

+ -

True competitive forms

**AVA-SI**  
(e.g., *iskopavati*)

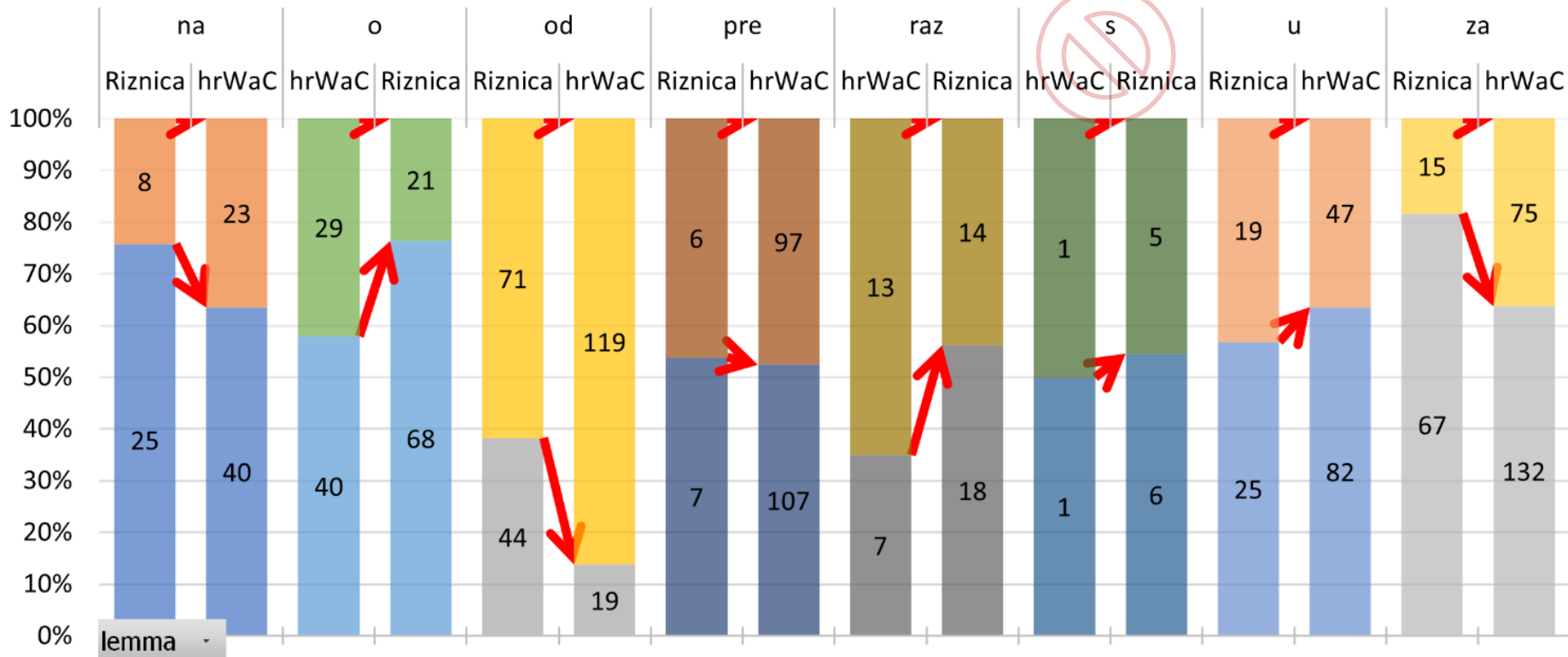
**A-SI**  
(e.g., *iskapati*)



root .Y

Count of \_o\_avati

# ROOT MOT 'TWIST, ROLL'



- namatati
- namotavati
- odmatati
- odmotavati
- omatati
- omotavati
- prematati
- premotavati
- razmatati
- razmotavati
- smatati
- smotavati
- umatati
- umotavati
- zamatati
- zomotavati

prefix corpus

+ -

No clear trend can be observed

AVA-SI (e.g., *omotavati*)

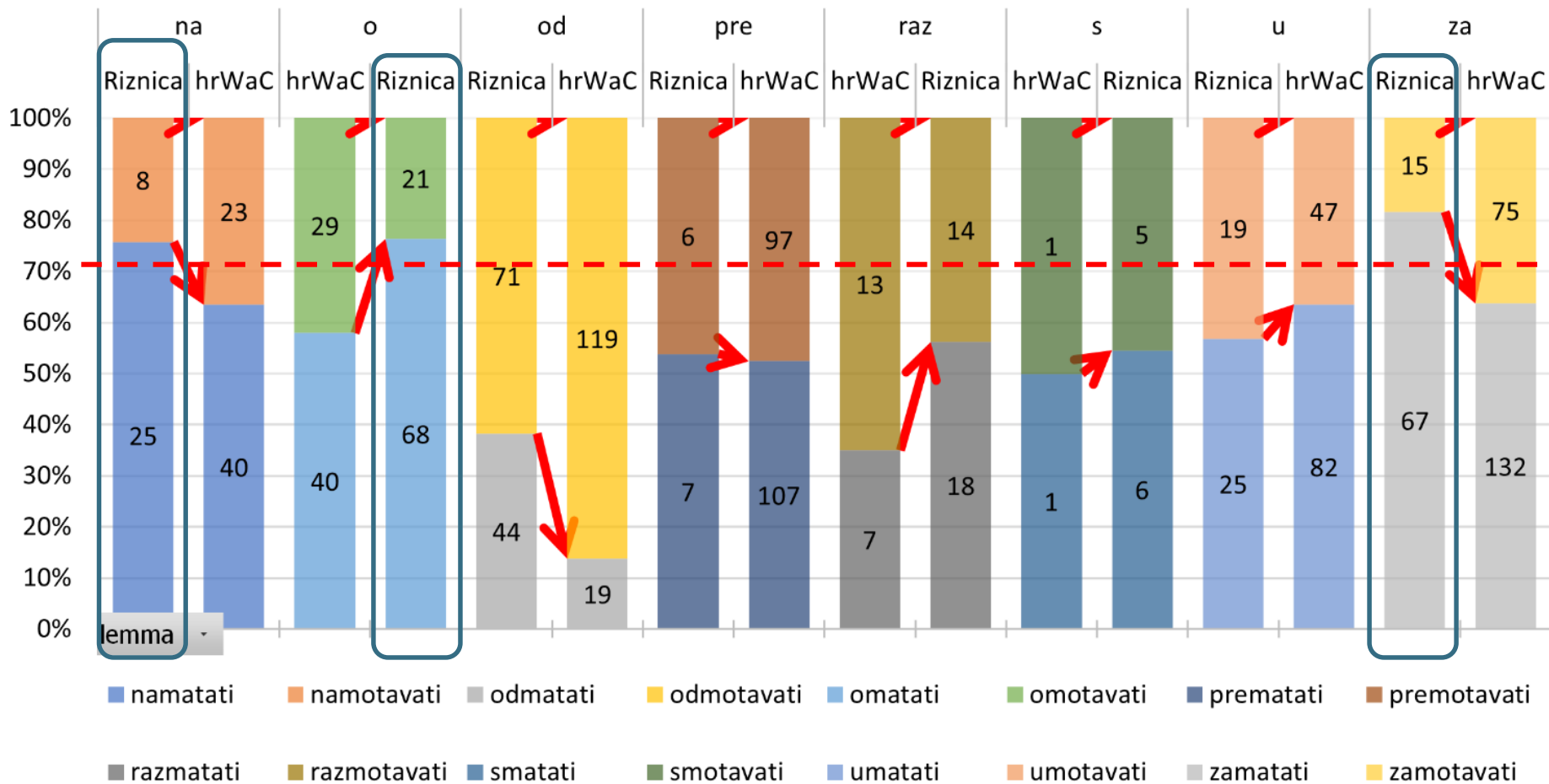
A-SI (e.g., *omatati*)



root .

Count of \_o\_avati

# ROOT MOT 'TWIST, ROLL'



Most pairs are true competitive forms, some exceptions

**AVA-SI**  
(e.g., *omotavati*)

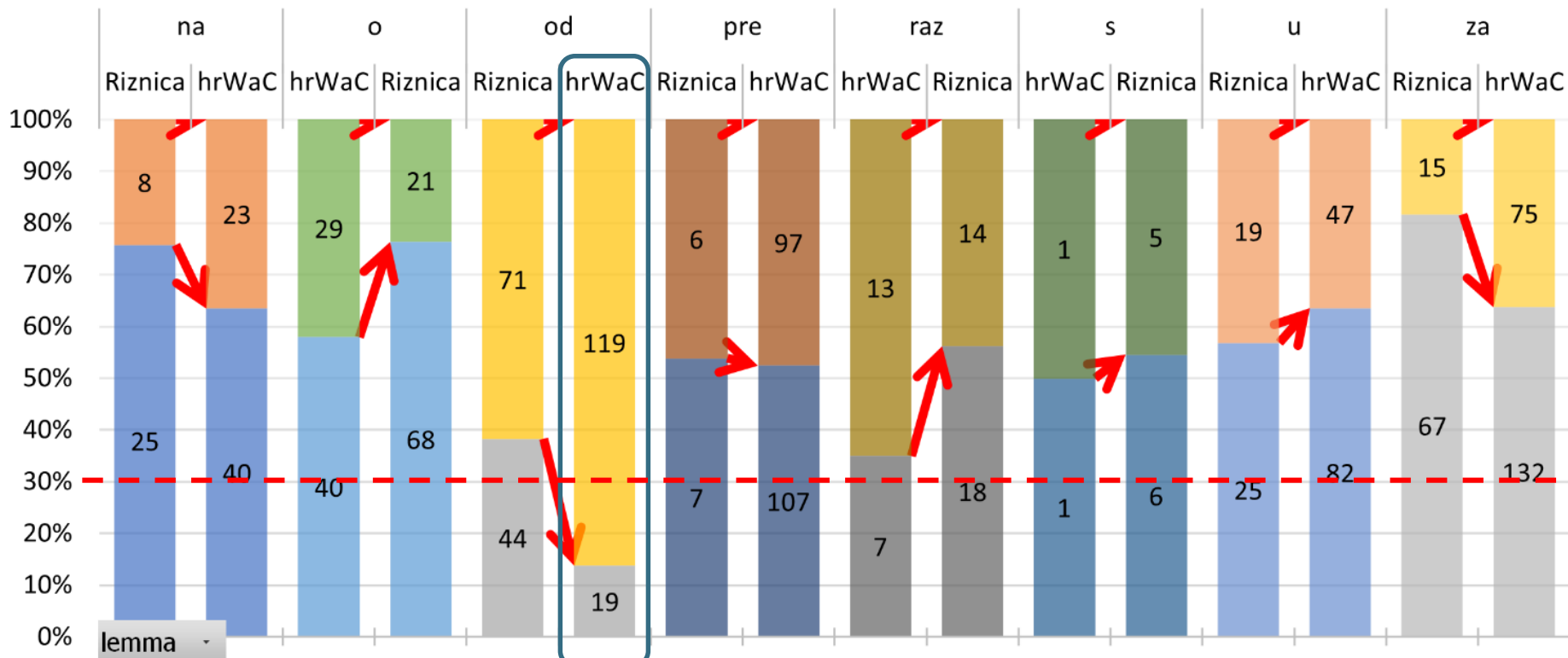
**A-SI**  
(e.g., *omatati*)



root .Y

Count of \_o\_avati

# ROOT MOT 'TWIST, ROLL'



- namatati
- namotavati
- odmatati
- odmotavati
- omatati
- omotavati
- prematati
- premotavati
- razmatati
- razmotavati
- smatati
- smotavati
- umatati
- umotavati
- zamatati
- zamatavati

prefix corpus

+ -

Most pairs are true competitive forms, some exceptions

**AVA-SI**  
(e.g., *omotavati*)

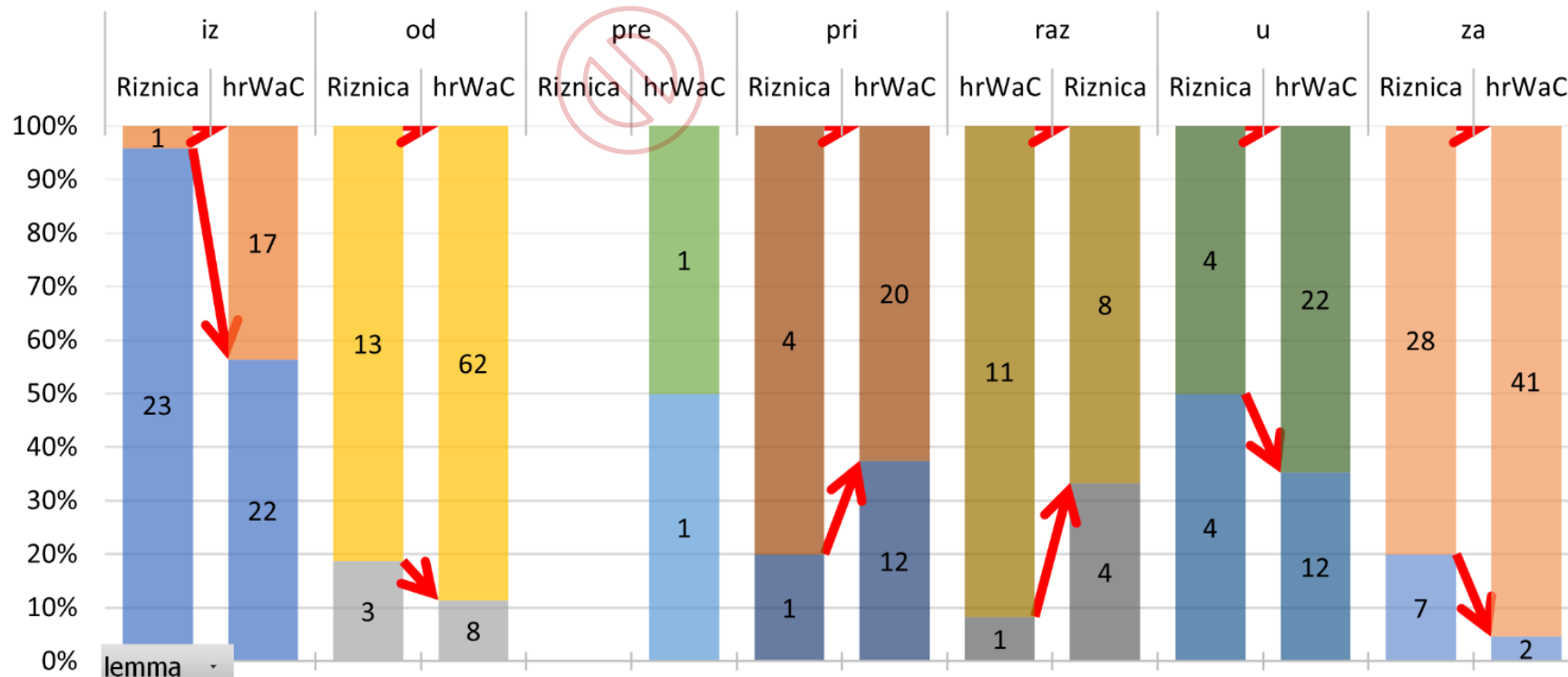
**A-SI**  
(e.g., *omatati*)



root ▾

Count of \_o\_avati

# ROOT *KOPČ* 'BUCKLE UP'



- iskapčati
- iskopčavati
- otkapčati
- otkopčavati
- prekapčati
- prekopčavati
- prikapčati
- prikopčavati
- raskapčati
- raskopčavati
- ukapčati
- ukopčavati
- zakupčati
- zakupčavati

prefix ▾ corpus ▾

+ -

No clear trend can be observed.

Low counts

**AVA-SI**  
(e.g., *prikopčavati*)

**A-SI**  
(e.g., *prikapčati*)

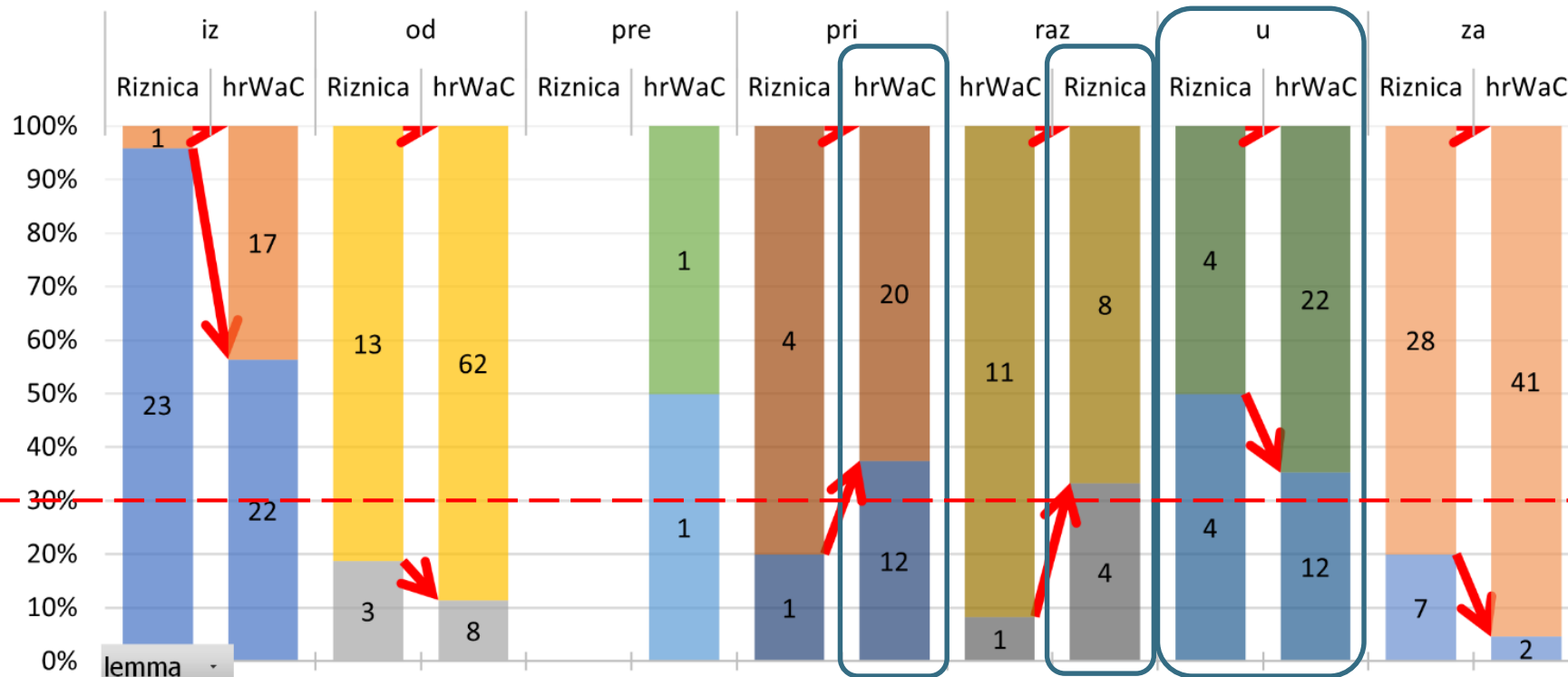




root .Y

Count of \_o\_avati

# ROOT *KOPČ* 'BUCKLE UP'



- iskapčati
- iskopčavati
- otkapčati
- otkopčavati
- prekapčati
- prekopčavati
- prikapčati
- prikopčavati
- raskapčati
- raskopčavati
- ukapčati
- ukopčavati
- zakupčati
- zakupčavati

prefix corpus

+ -

The **AVA-SI** is dominant, with some exceptions

**AVA-SI**  
(e.g., *prikopčavati*)

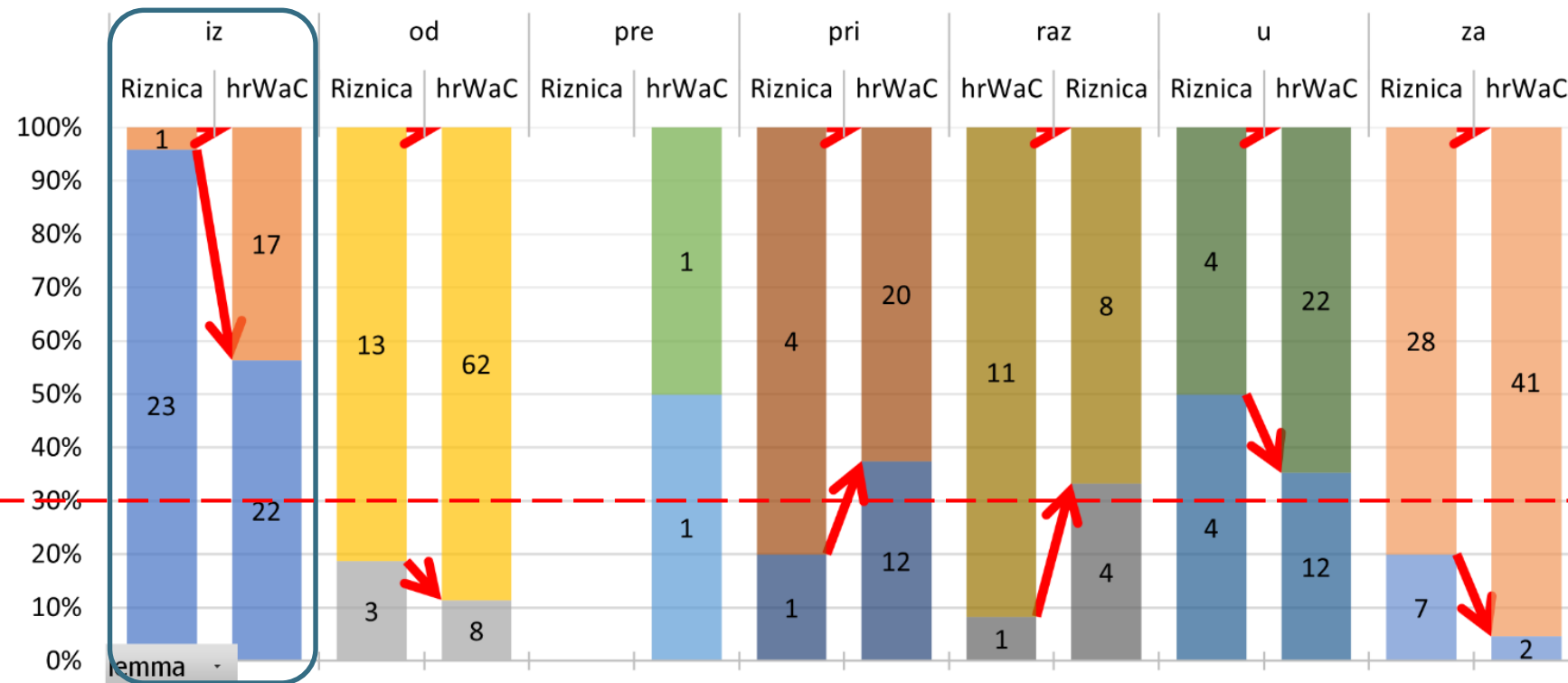
**A-SI**  
(e.g., *prikapčati*)



root .Y

Count of \_o\_avati

# ROOT *KOPČ* 'BUCKLE UP'



The **AVA-SI** is dominant, with some exceptions

**AVA-SI**  
(e.g., *prikopčavati*)

**A-SI**  
(e.g., *prikapčati*)



# Raw counts: summary

- Insights from the raw counts inconsistent
    - differences between roots wrt trends (KOP vs. MOT, KOPČ)
    - differences between roots wrt their preferences towards competing forms
      - KOP: all kinds of preferences attested (AVA-SI, A-SI, no preference)
      - MOT: mostly no preference
      - KOPČ: preference towards AVA-SI, but low counts
- quantitative analysis



# III. STATISTICAL ANALYSIS, RESULTS AND DISCUSSION

Linear regression model  
Results & Discussion  
Diachronic perspective



# Results: linear regression model (ANOVA table)

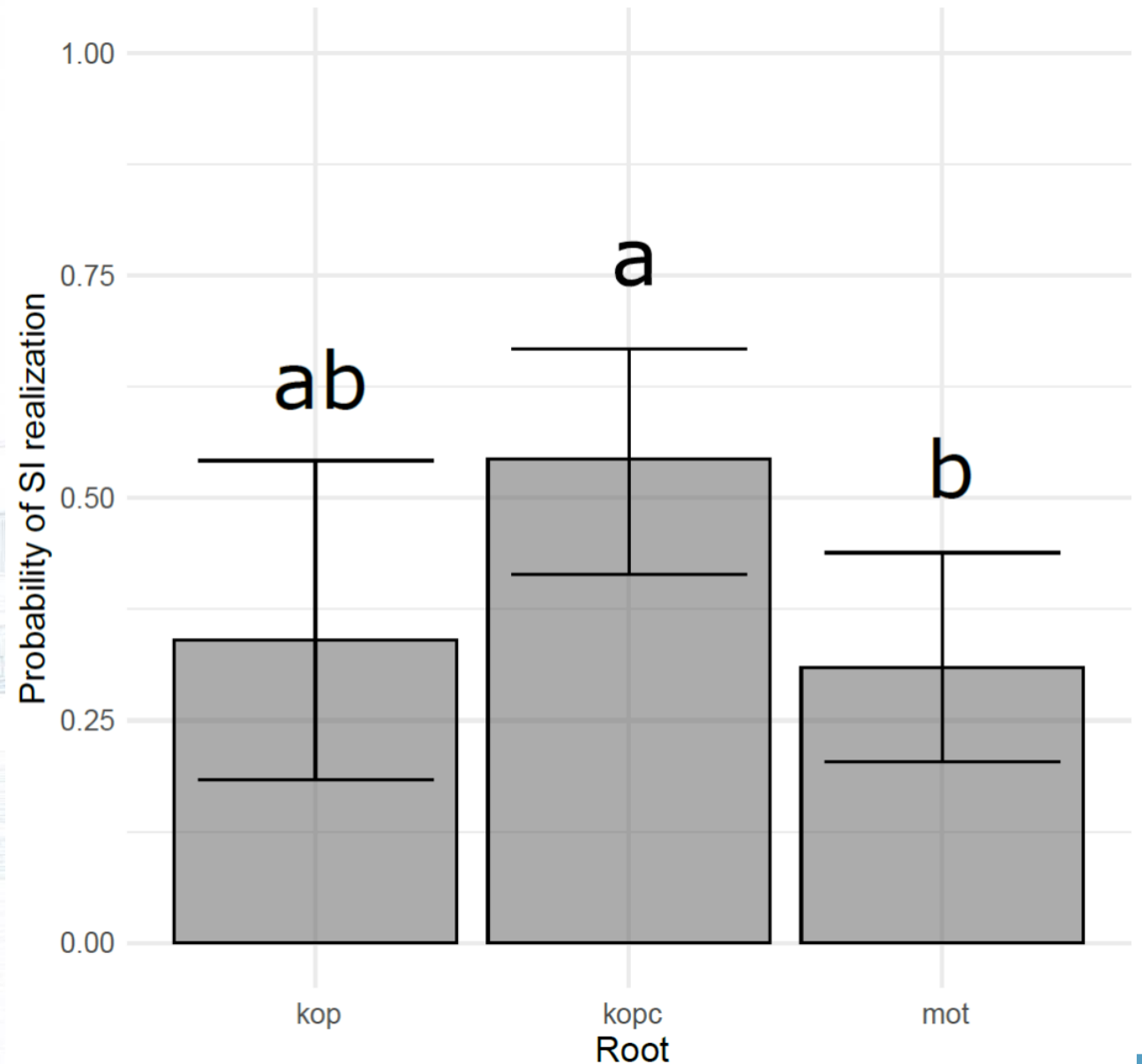
		Df	Deviance	Resid. Df	Resid. Dev	Pr(>Chi)	
	NULL			3803	5244,8		
RQ1	root	2	89,03	3801	5155,8	< 2.2e-16	***
RQ2	homonym	1	16,28	3785	4285	5,46E-05	***
RQ3	prefix	11	699,55	3790	4456,2	< 2.2e-16	***
RQ4	frequency	1	1,69	3789	4454,5	0,1942	
RQ5	subcorpus	2	151,13	3787	4303,4	< 2.2e-16	***
RQ6	period	1	2,1	3786	4301,3	0,1475	





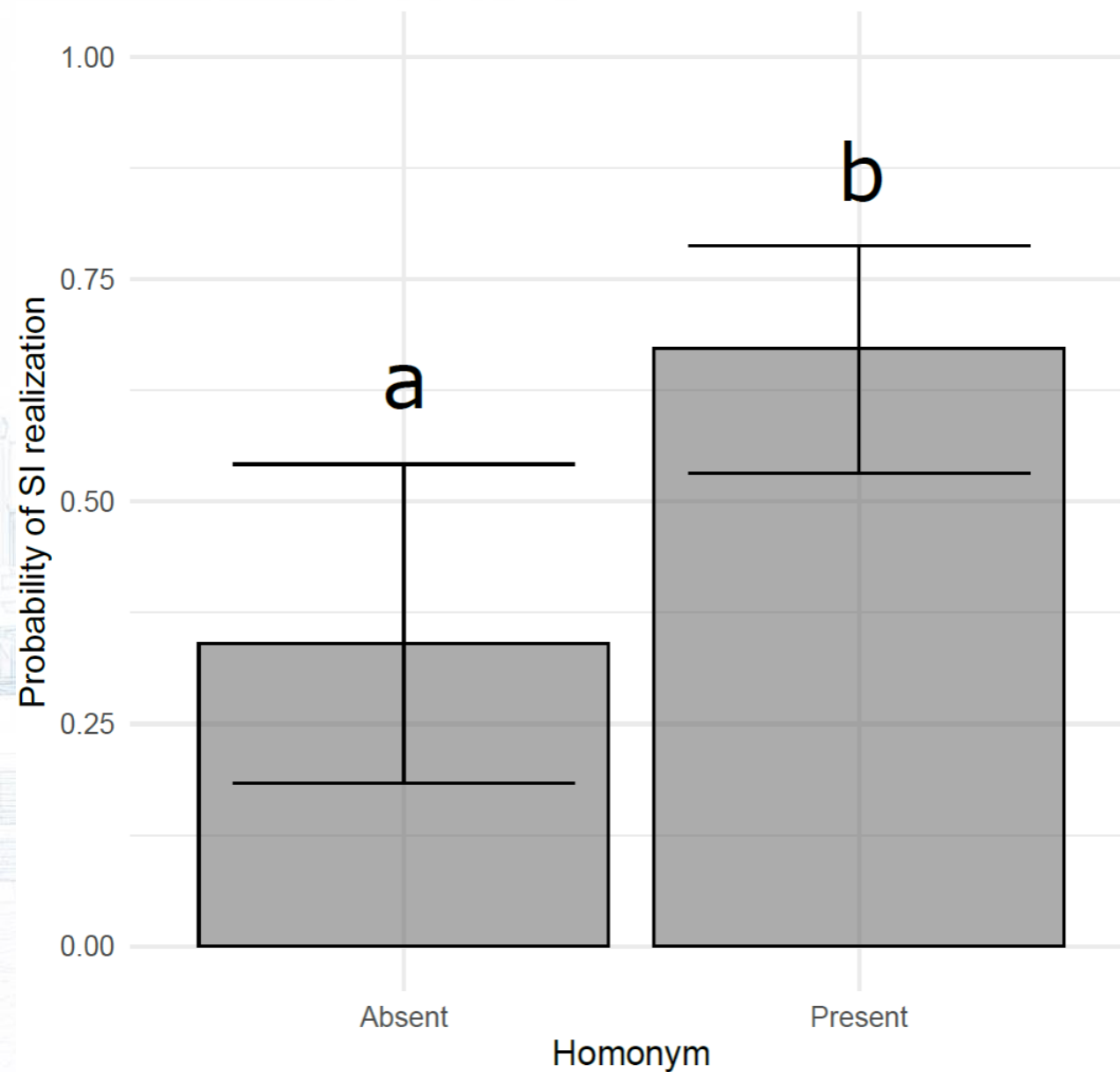
## RQ1: Three roots and competing A- and AVA-SIs

- Root as a significant factor
  - KOPČ statistically different from the MOT
  - no differences between
    - KOP and KOPČ
    - KOP and MOT



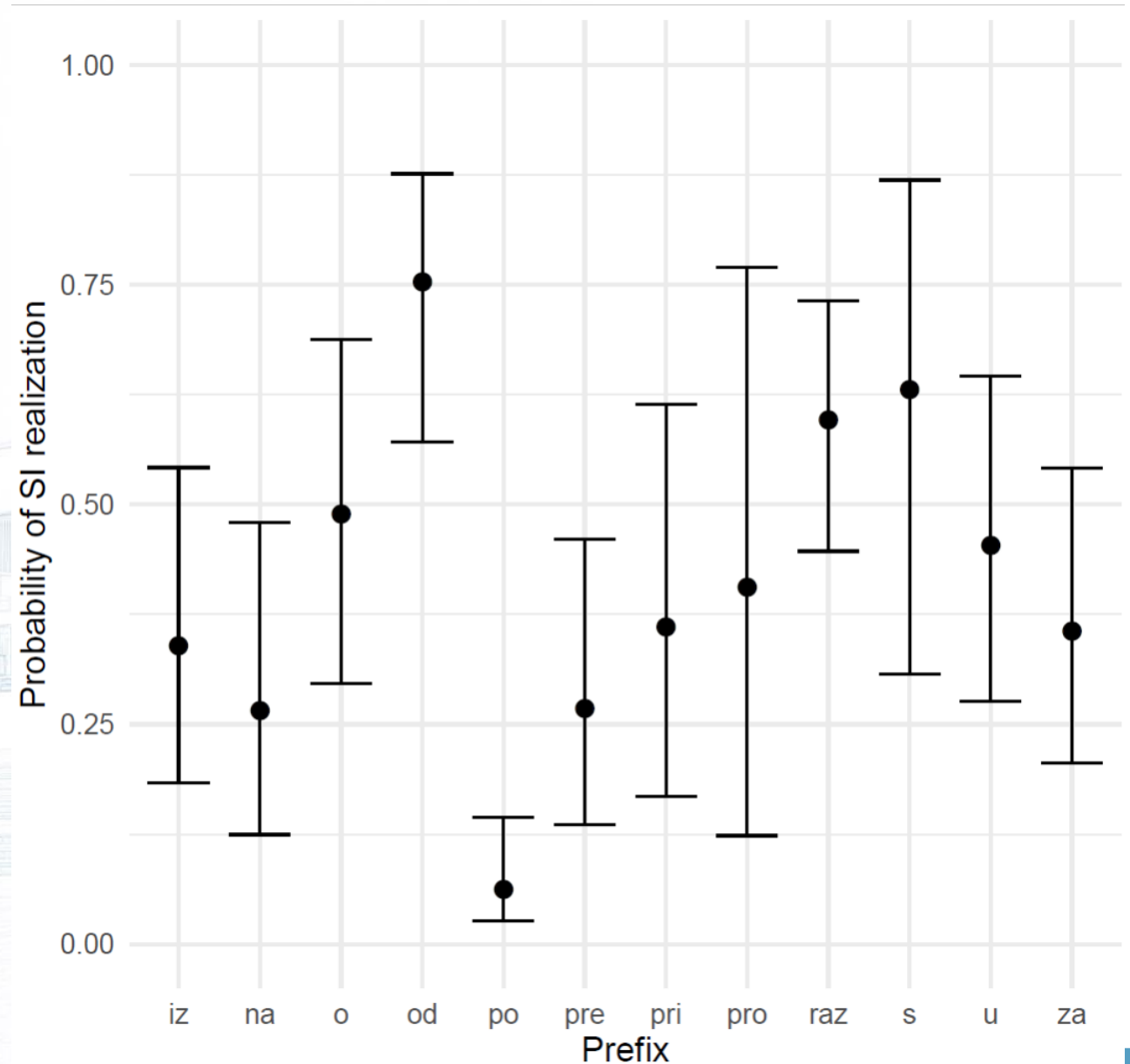
## RQ2: Homonym PFV verb with the root *KAP* and tendency to AVA-SIs

- Homonym as a significant factor
  - *zàkapat*<sub>PFV</sub> ‘to stain’
  - *zakápat*<sub>IPFV</sub> ‘to burry’
  - *zakopávati*<sub>IPFV</sub> ‘to burry’



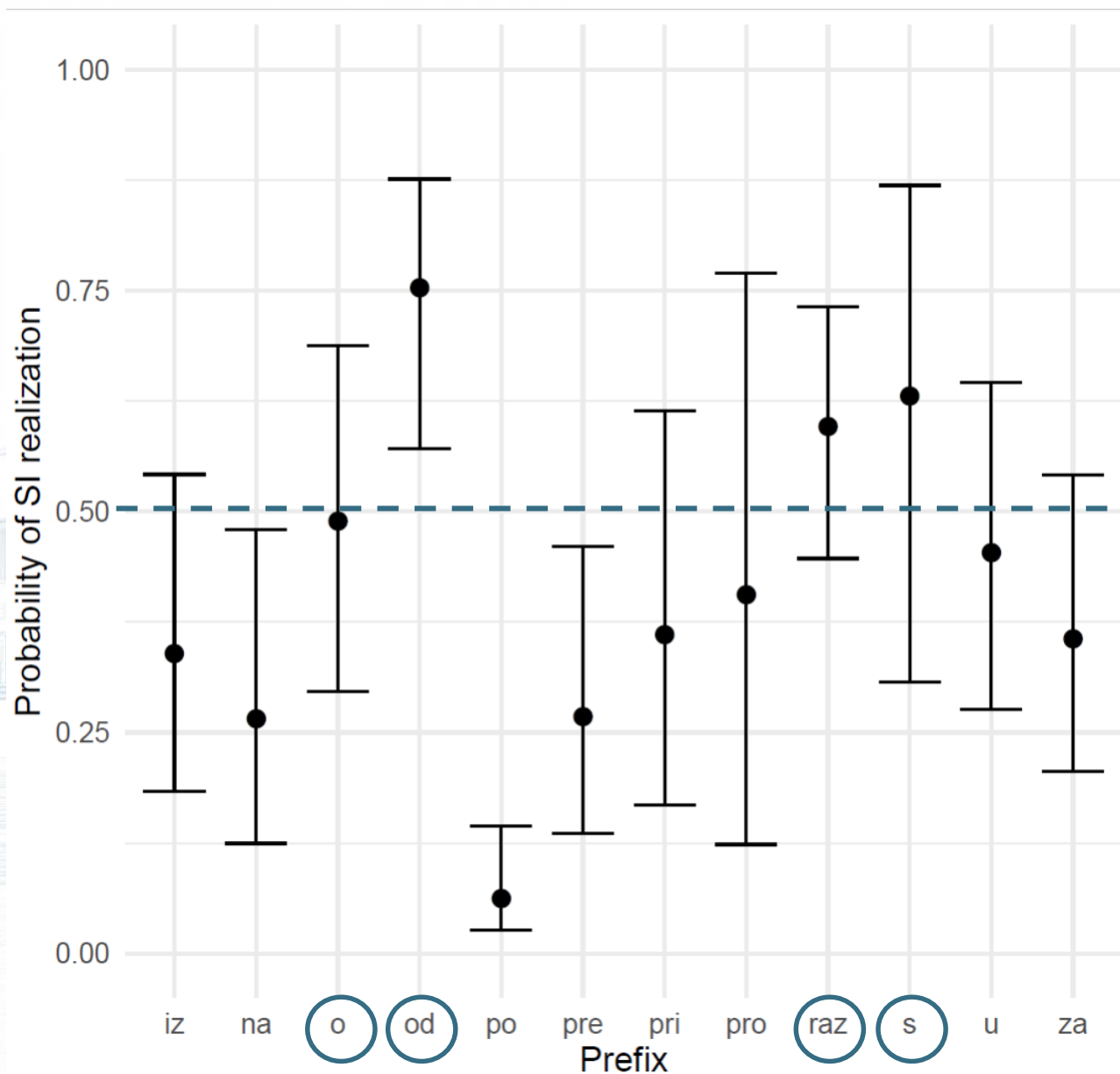
## RQ3: Realization of the SI as A- or AVA- prefix (verb) specific

- Prefix as a significant factor
  - (individual verbs)



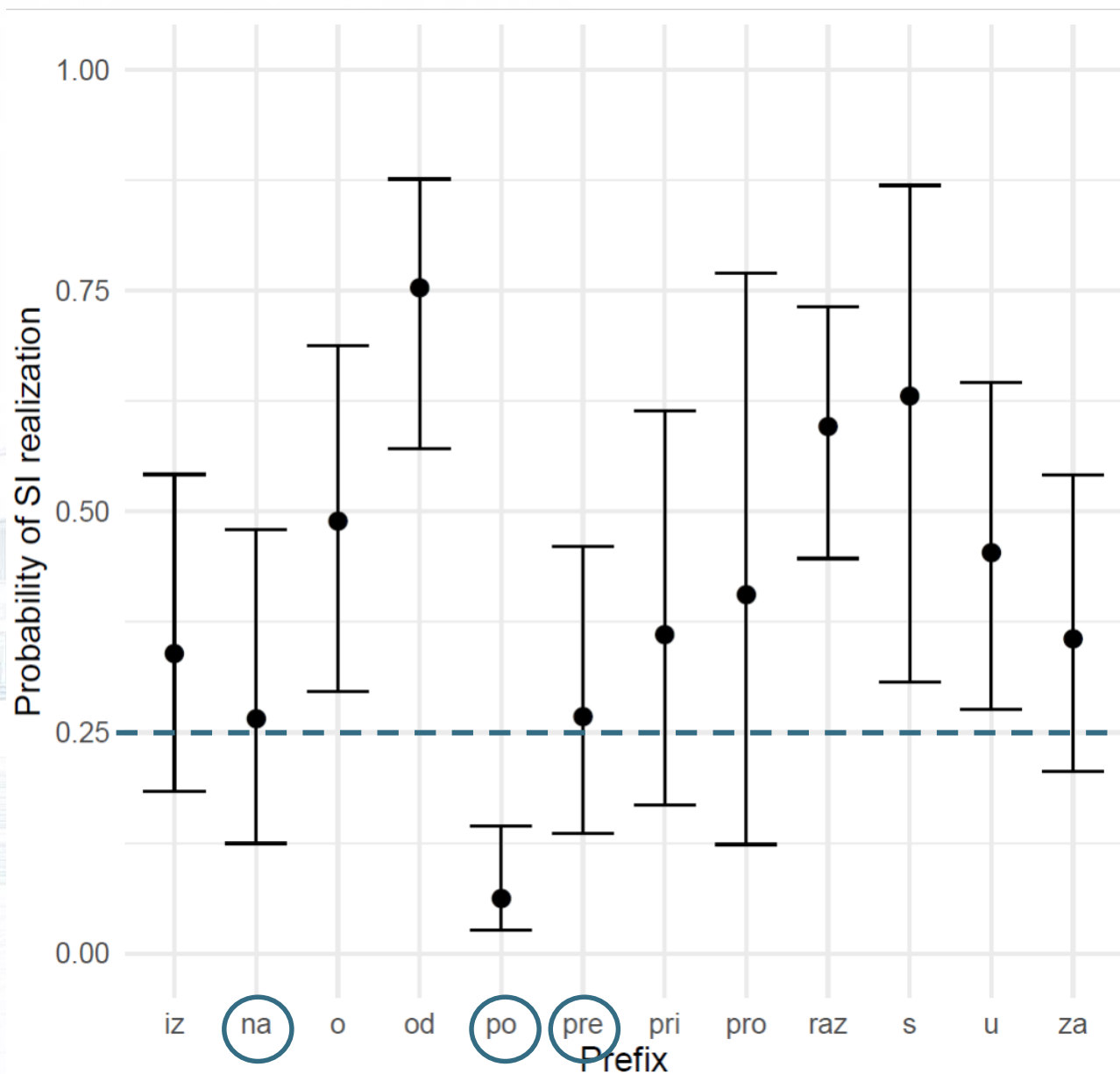
## RQ3: Realization of the SI as A- or AVA- prefix (verb) specific

- Prefix as a significant factor
  - probability of 50% or higher
    - *okopavati*, *omatati*
    - *otkopavati*, *otkopčavati*, *odmotavati*
    - *raskopavati*, *raskopčavati*, *razmotavati* / *razmatati*
    - *smatati* / *smotavati*
  - verb specific preferences (Graudina et al. 2001)?



## RQ3: Realization of the SI as A- or AVA- prefix (verb) specific

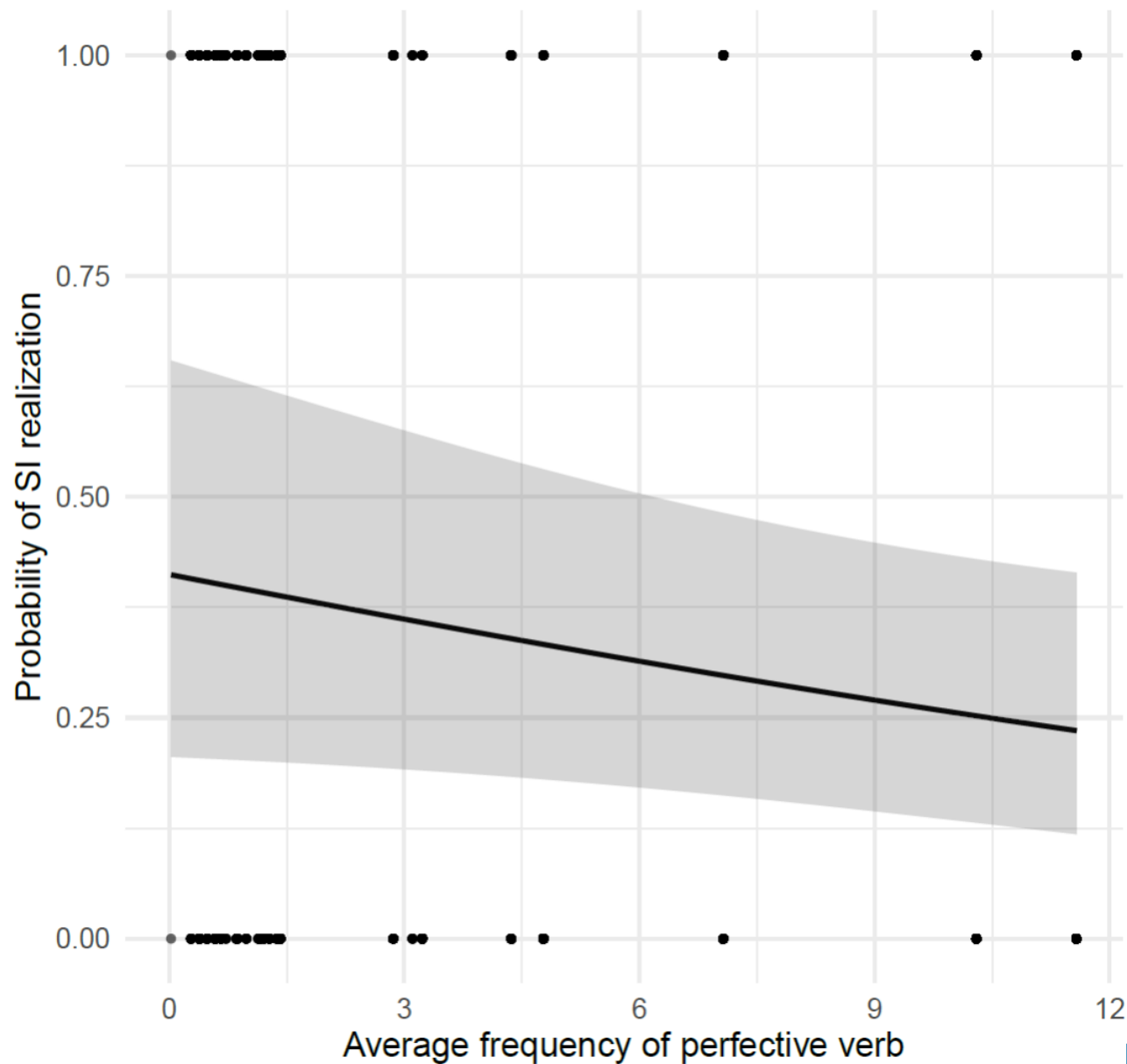
- Prefix as a significant factor
  - probability of 25% or lower
    - *namatati*
    - *pokapati*
    - *prekopavati*, *prekapčati* / *prekopčavati*, *prematati*





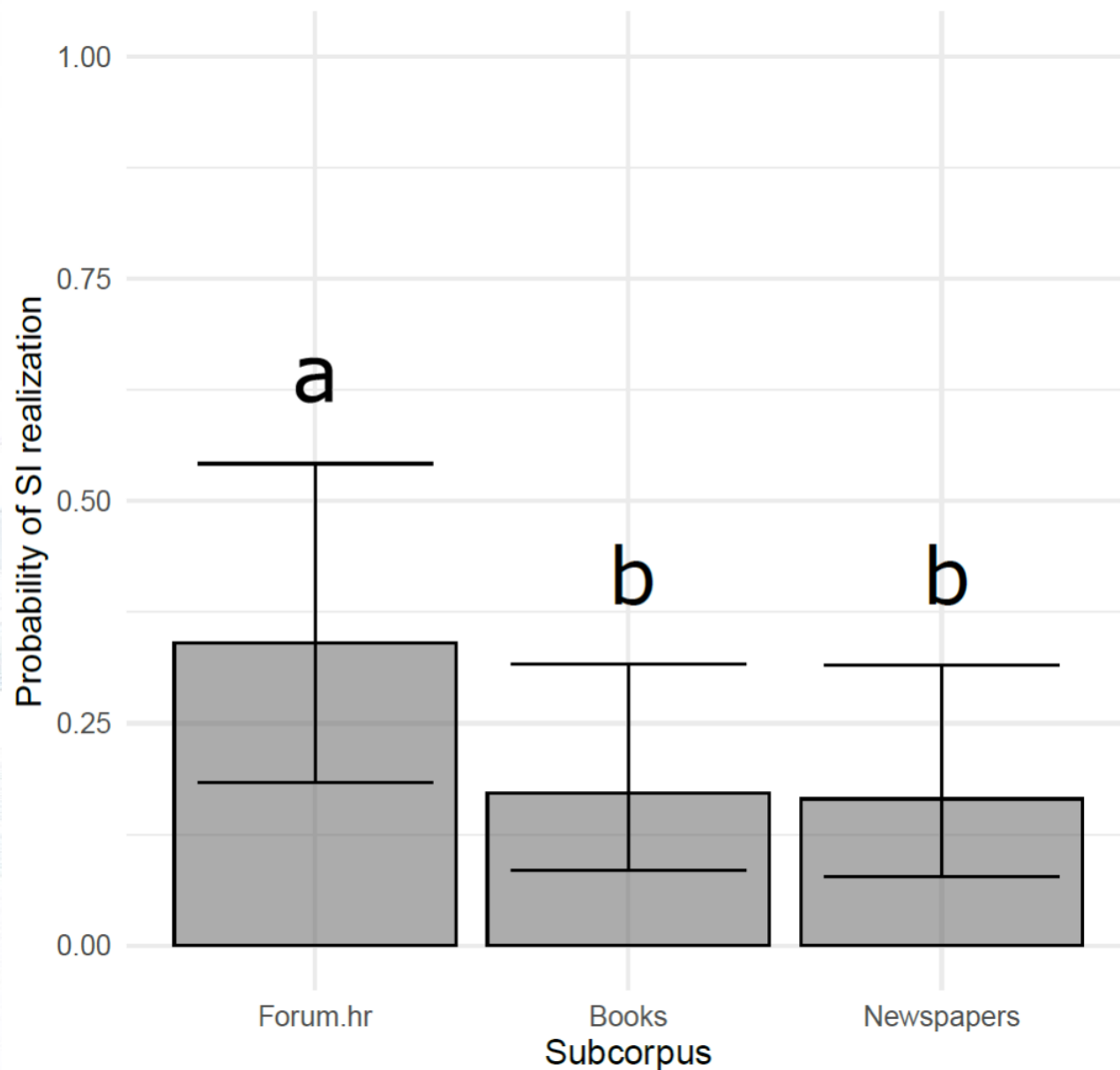
## RQ4: Frequency of a PFV verb and the realization of the SI as A- or AVA-

- Average frequency not a significant factor
  - less frequent PFV verbs more probability for -AVA-SIs
  - very few data points
    - mostly verbs with low frequency



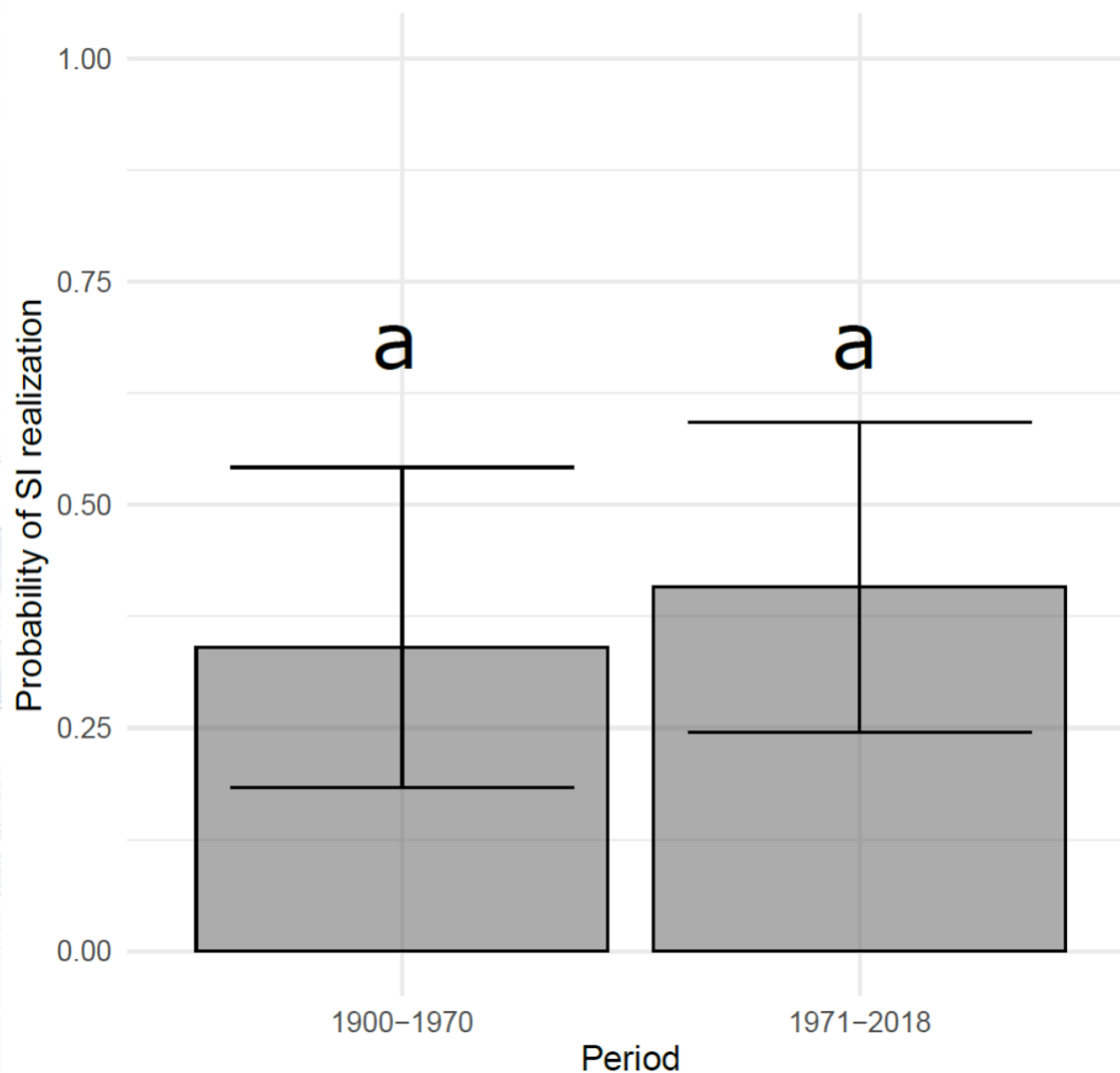
## RQ5: Croatian varieties and competing A- and AVA-SIs

- Corpus as a significant factor
  - Forum statistically different from the *Riznica* (Books and Newspapers)
  - no differences between the two subcorpora of the *Riznica*
    - normative recommendations (Hudeček & Mihaljević 2009)



## RQ6: Diachrony and A- and AVA-SIs

- Period (diachronic dimension) not a significant factor
  - AVA-SIs less probable in the period from the 1900-1970



# Diachronic perspective and the origins of competing forms

- The Academy Dictionary (historical dictionary of Štokavian)
  - KOP: A-SIs originate in NW, AVA-SIs presumably in SE regions
  - MOT: A-SIs barely attested, AVA-SI dominate in all regions
  - KOPČ: root borrowed from Turkish, most verbs not attested
- Srb.: A-SIs (*iskapati* etc.) not attested in a recent dictionary, barely any examples in srWaC
- Sln.: A-SIs from KOP (*izkapat* etc.) are attested in the late 19. c. dictionaries (e.g., Pleteršnik), nowadays considered dialectal



# IV. CONCLUSIONS AND FURTHER PERSPECTIVES

Conclusions and further perspectives

Aspectual sentential functions

Senses (different meanings)

Phraseology





# Conclusions

- Four of the six independent variables statistically significant when considering the choice between A-SIs and AVA-SIs:
  - the root
  - existence of a homonym PFV verb
  - prefix
  - (sub)corpus
- Frequency of the PFV verb and period (diachronic dimension) not significant factors



# Aspectual sentential functions

- Aspectual sentential functions (Maslov 1948; Bondarko 1971; Lehmann 2009a-b)
  - progressive
  - stative
  - general-factual
  - habitual
- in some cases, clear divisions (or tendencies)
  - habitual and progressive grouped against the stative function (Wiemer et al. 2020)
  - SIs of the ingressive, delimitative and egressive *za-*, *po-* and *ot-* derivatives
    - rarely possible, exclusively in non-episodic functions (Lehmann 1984)



# Aspectual sentential functions (examples)

- (1) [...] **prekapala** je po torbici tražeći Nastjinu sliku [...]. [Riznica, 2004]  
dig.IPFV.PTCP.SG.F be.3SG through purse search.IPFV.ADV.PRS Nastya's photo  
'She was rummaging in her purse, looking for Nastya's photo [...].' **A-SI, progressive f.**
- (2) **Prekapam** danas svoje papire — i eto što nađem [...]. [Riznica, 1917]  
dig.IPFV.PRS.3SG today own papers and here what find.PFV.PRS.3SG  
'Today, I was rummaging my papers, and here what I have found [...].' **A-SI, historical present**
- (3) Svako jutro **prekapa** među pismima [...]. [Riznica, 1921]  
every morning dig.IPF.PRS.3SG through letters  
'Every morning, he rummages through his letters [...].' **A-SI, iterative / habitual f.**



# Senses (different meanings)

(4a) *A kad prematam malu na krevetu [...].* [Forum.hr]  
and when change.IPFV.1PRS.SG small on bed  
'And when I change my baby girls dippers on the bed [...].'  
A-SI

(4b) *Dok premotavam film [...].* [Forum.hr]  
while rewind.ipfv.1PRS.SG film  
'While I am rewinding the film [...].'  
AVA-SI

(5a) *I ondje su te potkapali.* [Riznica, 1968]  
and there be.3PL you undermine.IPFV.PTCP.PL.M  
'You were undermined there too.'  
A-SI

(5b) *No cijeli život su ga potkopavali [...].* [Forum.hr]  
but whole life be.3PL him undermine.ipfv.ptcp.pl.m  
'But his whole life [they] undermined him.'  
AVA-SI





# Collocations

- (6a) [...] *ali neću ni **zakapati** glavu u pijesak [...].* **A-SI** [Forum.hr]  
'[...] but I am not going to bury my head in the sand [...].'
- (6b) *Glupo je **zakopavati** glavu u pijesak [...].* **AVA-SI** [Forum.hr]  
'It is dumb to bury the head in the sand [...].'
- (7a) ***Zakapam** ratnu sjekiru [...].* **A-SI** [Forum.hr]  
'I am going to bury the hatchet [...].'
- (7b) *Dražen Ladić i Hajduk **zakopavaju** »ratne sjekire«.* **AVA-SI** [Riznica, 2006]  
'Dražen Ladić and Hajduk are going to bury the hatchet [...].'
- (8a) *Polako se **odmata** klupko [...].* 'Slowly the plot is unravelling' **A-SI** [Forum.hr]
- (8b) *Klupko se pomalo **odmotava**...* **AVA-SI** [Riznica, 2006]





# V. REFERENCES

- Babić, Stjepan. 2002. *Tvorba riječi u hrvatskome književnome jeziku*. 3. poboljšano izd. Zagreb: Hrvatska akademija znanosti i umjetnosti : Nakladni zavod Globus.
- Bermel, Neil & Luděk Knittl. 2012. Morphosyntactic variation and syntactic constructions in Czech nominal declension: corpus frequency and native-speaker judgments. *Russian Linguistics* 36(1). 91–119.
- Bondarko, A. V. (1971). *Vid i vremja russkogo glagola: značenje i upotreblenie. Posobie dlja studentov*. Moskva: Prosveščenie.
- Graudina, Ludmila K., Viktor A. Ickovič & Lija P. Katlinskaja. 2001. *Grammaticeskaja pravil'nost' russkoj reči: stilističeskij slovar' variantov*. 2nd-e izd., ispr. i dop edn. Moskva: Nauka.
- Hudeček, L.; Mihaljević, M. (2009) *Jezik medija: publicistički funkcionalni stil*. Zagreb: Hrvatska sveučilišna naklada.
- Lehmann, V. (1984). Affigierung und Verbbedeutung. Ein Beitrag zur aspektuellen Klassifizierung russischer Verben. Rehder, P., ed. *Slavistische Linguistik* 1983, 61–87. München: Verlag Otto Sagner.
- Lehmann, V. (2009a). Formal-funktionale Theorie des russischen Aspekts. (<https://docs.google.com/document/d/1yoJRTeEd2rrP5nQHMTdHPitzEhD8rbe200eafSJxsKM/edit?pli=1#> Accessed on March 12<sup>th</sup> 2020)
- Lehmann, V. (2009b). Aspekt und Tempus. Kempgen, S., and K. Gutschmidt, eds. *Die slavischen Sprachen: ein internationales Handbuch zu ihrer Struktur, ihrer Geschichte und ihrer Erforschung* 1, , 526–556. Berlin: Mouton de Gruyter.



- Ljubešić, Nikola & Filip Klubička. 2014. bs,hr,srWaC - Web Corpora of Bosnian, Croatian and Serbian. In Proceedings of the 9th Web as Corpus Workshop (WaC-9), 29–35. Gothenburg, Sweden: Association for Computational Linguistics. <https://doi.org/10.3115/v1/W14-0405>. <https://www.aclweb.org/anthology/W14-0405>
- Maslov, J. S. (1948). Vid i leksičeskoe značenje glagola v sovremennom ruskom literaturnom jazyke. *Izvestija Akademii nauk SSSR. Otdelenie literatury i jazyka* 7(4). 303–316.
- Pols, Adriana. 1983. Upotreblenie variantov vtorichno imperfektirovannyh glagolov na -yvat' (-ivat') i -at' (-jat'). *Studies in Slavic and General Linguistics*. [Editions Rodopi B.V., Brill] 3. 357–384.
- Schuyt, Roel. 1990. The morphology of Slavic verbal aspect: a descriptive and historical study (*Studies in Slavic and General Linguistics* v. 14). Amsterdam ; Atlanta, GA: Rodopi.
- Štícha, František (ed.). 2013. *Akademická gramatika spisovné češtiny (Lingvistika)*. Vydání první. Praha: Academia.
- Vujanić, Milica, Darinka Gortan-Premk, Milorad Dešić, Rajna Dragičević, Miroslav Nikolić, Ljiljana Nogo, Vasa Pavković, et al. 2007. *Rečnik srpskoga jezika*. (Ed.) Miroslav Nikolić. Novi Sad: Matica srpska.
- Wiemer, B.; Wrzesień-Kwiatkowska, J.; Wyroślak, P. (2020). How morphologically related synonyms come to make up a paradigm. *Russian Linguistics* 44, 231–266.

