A Falta de Pan, Buenas Son Tortas: The Efficacy of Predicted UPOS Tags for Low Resource UD Parsing

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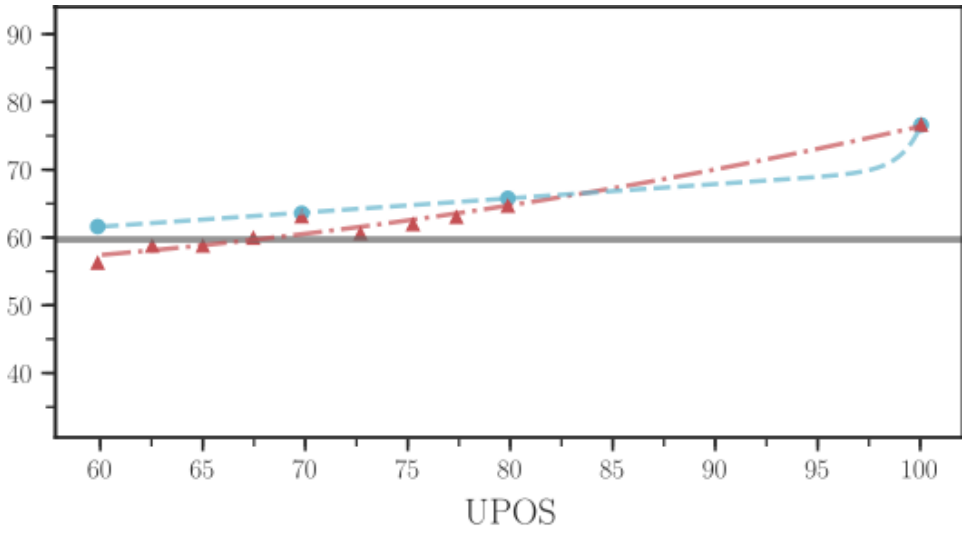
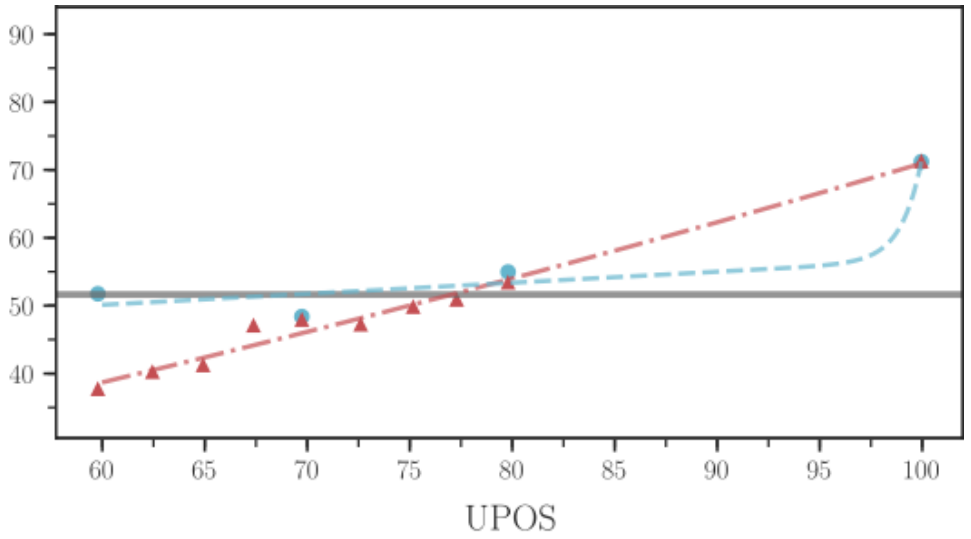
Previously: Tamil results

UAS



LAS



Still some improvement with low-accuracy taggers.

Data

	Training		Dev	
	sents	tokens	sents	tokens
bxr	15	120	4	33
kk	24	395	7	134
kmr	16	192	4	50
olo	15	114	4	30
hsb	18	310	5	150
be	307	6,441	77	1,449
gl	480	12,317	120	3,119
lt	166	3,444	42	852
mr	335	2,751	84	686
orv	256	8,253	64	1903
ta	383	6,082	96	1,254
cy	491	10,719	123	2,616

Very low resource: < 25 sentences

Low resource: < 500 sentences

Methodology

Taggers

- control accuracy?

Parser

- biaffine (Dozat & Manning, 2017)

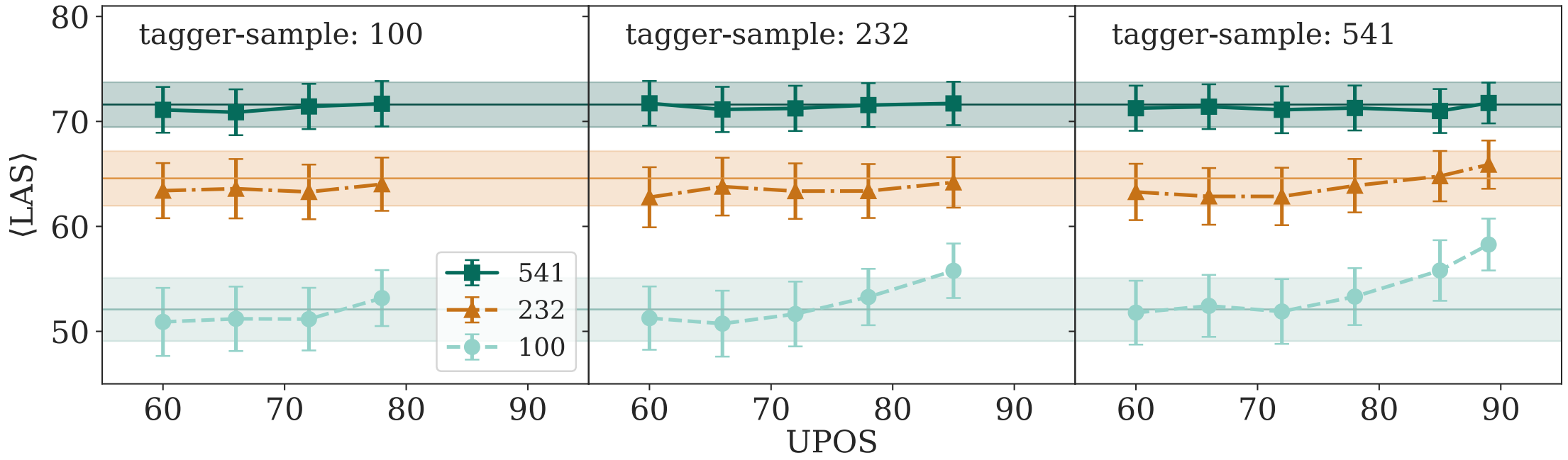
Very low-resource

	UPOS			LAS		
	Single	Multi	None	Pred	Gold	Multi
bxr	48.72	48.34	10.45	12.36	20.31	14.41
kk	53.37	52.14	22.48	21.63	36.66	23.50
kmr	50.56	53.73	19.16	18.31	35.54	21.58
olo	37.84	37.37	9.74	10.89	17.54	7.59
hsb	53.44	47.28	18.36	20.03	41.88	14.66
avg	48.79	47.77	16.04	16.64	30.39	16.25

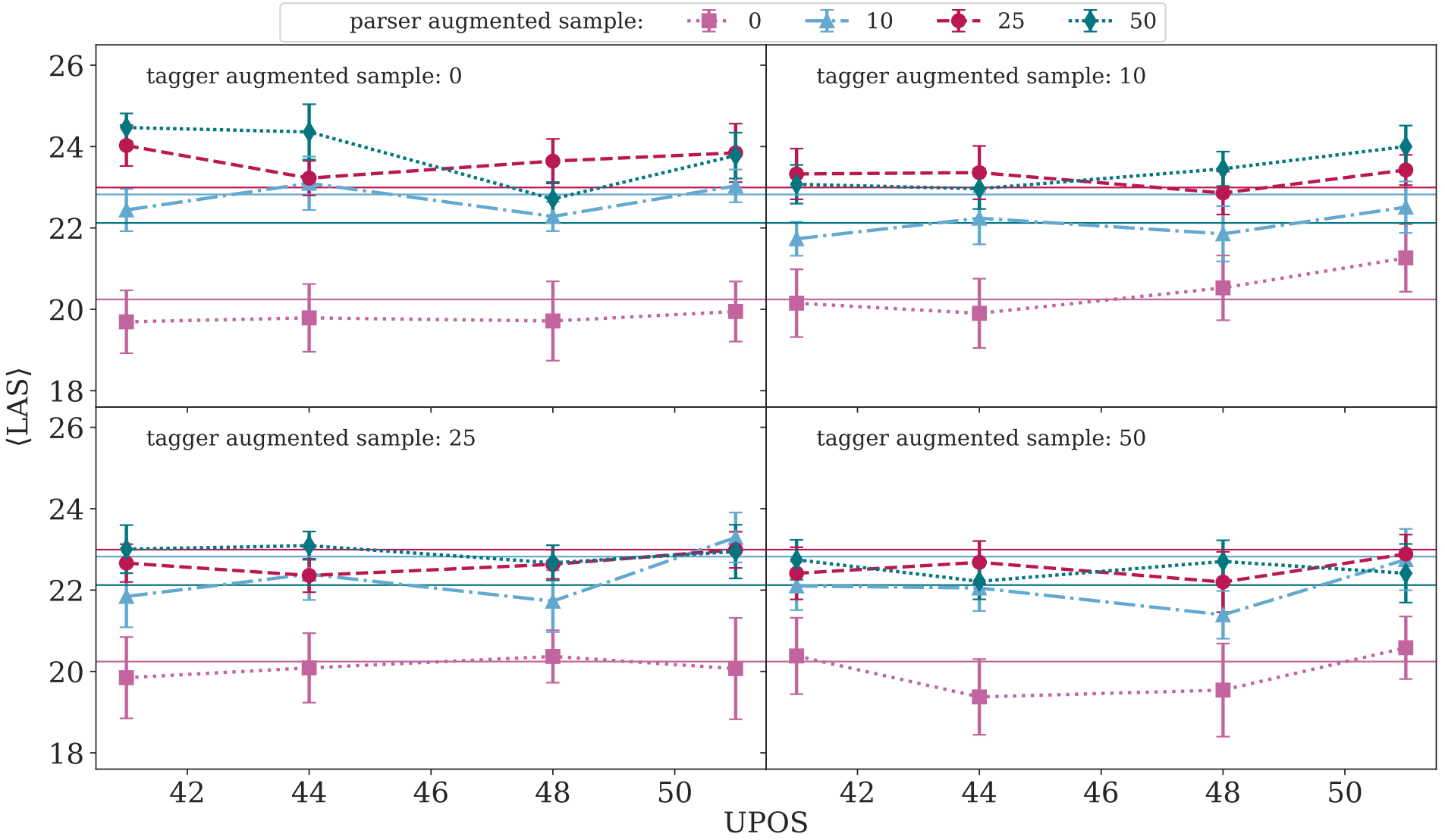
Fairly low-resourced

	UPOS			LAS		
	Single	Multi	None	Pred	Gold	Multi
be	92.82	87.29	61.82	64.91	68.87	62.28
gl	93.54	88.56	70.60	72.73	79.06	70.54
lt	79.25	71.51	37.17	35.94	48.30	38.96
mr	80.58	76.46	57.04	58.74	64.32	56.31
orv	87.77	81.60	49.53	51.34	60.24	50.33
ta	86.88	79.23	63.85	62.75	74.31	63.15
cy	91.77	86.41	72.10	72.93	80.71	73.00
avg	85.89	77.77	55.24	56.52	64.13	55.10

Artificial


tagger-sample: 100
tagger-sample: 232
tagger-sample: 541
⟨LAS⟩
80
70
60
50
541
232
100
60
70
80
90
UPOS

Augmented


parser augmented sample:
0
10
25
50
tagger augmented sample: 0
tagger augmented sample: 10
tagger augmented sample: 25
tagger augmented sample: 50
⟨LAS⟩
UPOS
18
20
22
24
26
42
44
46
48
50

End