

# Multi-way MT

Firat et al. 2016 (two papers)

			Fr (39m)		Cs (12m)		De (4.2m)		Ru (2.3m)		Fi (2m)	
Dir			→ En	En →	→ En	En →	→ En	En →	→ En	En →	→ En	En →
(a) BLEU	Dev	Single	27.22	26.91	21.24	15.9	24.13	20.49	21.04	18.06	13.15	9.59
		Multi	26.09	25.04	21.23	14.42	23.66	19.17	21.48	17.89	12.97	8.92
	Test	Single	27.94	<b>29.7</b>	20.32	<b>13.84</b>	24	<b>21.75</b>	22.44	<b>19.54</b>	12.24	<b>9.23</b>
		Multi	<b>28.06</b>	27.88	<b>20.57</b>	13.29	<b>24.20</b>	20.59	<b>23.44</b>	19.39	<b>12.61</b>	8.98
(b) LL	Dev	Single	-50.53	-53.38	-60.69	-69.56	-54.76	-61.21	-60.19	-65.81	-88.44	-91.75
		Multi	-50.6	-56.55	-54.46	-70.76	-54.14	-62.34	-54.09	-63.75	-74.84	-88.02
	Test	Single	-43.34	<b>-45.07</b>	-60.03	<b>-64.34</b>	-57.81	<b>-59.55</b>	-60.65	-60.29	-88.66	-94.23
		Multi	<b>-42.22</b>	-46.29	<b>-54.66</b>	-64.80	<b>-53.85</b>	-60.23	<b>-54.49</b>	<b>-58.63</b>	<b>-71.26</b>	<b>-88.09</b>

**Table 3:** (a) BLEU scores and (b) average log-probabilities for all the five languages from WMT'15.