Model diagnostics by number of topics Searching for the magical K Held-out likelihood Lower bound -7.5 **-**-7200000 **-**-7.6 **-**-7300000 **-**-7.7 **-**-7400000 **-**–7.8 **-**-7500000 **-**-7.9 **-**Residuals Semantic coherence 2.1 **-**-60 **-**2.0 -1.9 --70 **-**1.8 **-**1.7 --80 **-**1.6 -5678910 12 14 16 18 20 48 50 52 54 56 58 60 62 64 66 68 70 48 50 52 54 56 58 60 62 64 66 68 70 K (number of topics)