

Forecasting Emergency Medical Service Call Arrival Rates

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SUPPLEMENTAL MATERIALS

Additional Tables: Tables 1 & 2

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SUPPLEMENTAL MATERIALS: TABLES 1 & 2

k		Fit to 2007		Fit to 2008	
		α	β	α	β
3	Estimate	0.0594	0.8093	0.0559	0.8232
	Standard Error	0.0089	0.0402	0.0075	0.0316
4	Estimate	0.0553	0.8280	0.0542	0.8306
	Standard Error	0.0088	0.0387	0.0074	0.3130
5	Estimate	0.0551	0.8311	0.0537	0.8336
	Standard Error	0.0088	0.0376	0.0073	0.0298

Table 1: Parameter estimates and corresponding approximate standard error for IntGARCH model with K=3,4,5 from fitting 2007 and 2008 data separately.

				Mean Average Cost Per Hour			Mean % Served Immediately			Mean Servers Per Hour		
Train. Set				q			q			q		
	θ	ν	Model	2	5	10	2	5	10	2	5	10
2008	0.8	$\frac{2}{3}$	SP	50.5 _(0.2)	62.6 _(0.5)	79.7 _(1.0)	68.7 _(0.6)	73.6 _(0.6)	76.5 _(0.6)	40.2	41.1	41.7
			FM	49.5 _(0.3)	60.2 _(0.6)	74.9 _(1.1)	70.3 _(0.7)	75.7 _(0.6)	78.8 _(0.6)	39.8	40.7	41.3
			IG	48.3 _(0.2)	57.1 _(0.5)	69.3 _(1.0)	74.3 _(0.7)	79.3 _(0.6)	82.0 _(0.5)	40.1	41.0	41.6
2007	0.8	$\frac{2}{3}$	SP	49.4 _(0.2)	60.1 _(0.4)	75.1 _(0.8)	71.6 _(0.5)	76.1 _(0.5)	78.8 _(0.4)	40.2	41.1	41.7
			FM	47.8 _(0.2)	56.0 _(0.4)	67.1 _(0.8)	76.9 _(0.5)	81.2 _(0.5)	83.6 _(0.5)	40.6	41.5	42.0
			IG	47.2 _(0.2)	54.7 _(0.4)	64.9 _(0.8)	78.0 _(0.5)	82.3 _(0.5)	84.7 _(0.4)	40.3	41.2	41.8
2008	0.9	$\frac{2}{3}$	SP	50.9 _(0.2)	60.5 _(0.5)	73.1 _(0.9)	76.0 _(0.5)	81.5 _(0.5)	84.5 _(0.4)	41.6	42.9	43.8
			FM	49.5 _(0.2)	57.4 _(0.5)	67.3 _(0.9)	78.4 _(0.6)	84.2 _(0.5)	87.1 _(0.4)	41.3	42.6	43.4
			IG	48.4 _(0.2)	54.9 _(0.4)	62.7 _(0.8)	81.7 _(0.5)	86.9 _(0.4)	89.6 _(0.4)	41.5	42.8	43.6
2007	0.9	$\frac{2}{3}$	SP	49.8 _(0.2)	58.5 _(0.4)	69.6 _(0.7)	78.3 _(0.4)	83.3 _(0.4)	86.0 _(0.4)	41.7	43.0	43.8
			FM	48.2 _(0.2)	54.5 _(0.4)	62.0 _(0.7)	83.3 _(0.5)	87.8 _(0.4)	90.2 _(0.3)	42.0	43.3	44.2
			IG	47.6 _(0.2)	53.2 _(0.4)	59.9 _(0.6)	84.3 _(0.4)	88.8 _(0.4)	91.1 _(0.3)	41.8	43.1	43.9
2008	0.8	1	SP	36.2 _(0.2)	45.0 _(0.4)	57.1 _(0.7)	73.8 _(0.4)	78.7 _(0.4)	81.4 _(0.4)	28.0	28.8	29.2
			FM	35.2 _(0.2)	42.8 _(0.4)	53.1 _(0.8)	75.8 _(0.5)	80.7 _(0.5)	83.4 _(0.4)	27.8	28.5	29.0
			IG	34.2 _(0.2)	40.5 _(0.4)	48.7 _(0.7)	78.9 _(0.5)	83.4 _(0.4)	85.9 _(0.4)	27.9	28.7	29.2
2007	0.8	1	SP	35.2 _(0.2)	43.1 _(0.5)	53.8 _(0.9)	76.3 _(0.6)	80.8 _(0.5)	83.2 _(0.5)	31.7	32.5	33.1
			FM	33.8 _(0.2)	39.6 _(0.4)	47.3 _(0.8)	81.1 _(0.5)	85.1 _(0.5)	87.2 _(0.4)	32.0	32.8	33.3
			IG	33.3 _(0.2)	38.7 _(0.4)	45.7 _(0.7)	81.9 _(0.5)	85.8 _(0.4)	87.9 _(0.4)	31.8	32.6	33.2
2008	0.9	1	SP	36.1 _(0.1)	42.6 _(0.3)	50.7 _(0.6)	81.7 _(0.4)	86.4 _(0.3)	89.0 _(0.3)	29.3	30.3	31.0
			FM	34.9 _(0.2)	40.1 _(0.4)	46.3 _(0.7)	83.8 _(0.4)	88.7 _(0.4)	91.1 _(0.3)	29.0	30.1	30.8
			IG	34.1 _(0.2)	38.3 _(0.3)	43.1 _(0.6)	86.4 _(0.4)	90.7 _(0.3)	92.8 _(0.3)	29.2	30.3	30.9
2007	0.9	1	SP	35.4 _(0.2)	41.3 _(0.4)	48.6 _(0.7)	83.3 _(0.5)	87.7 _(0.4)	90.0 _(0.3)	33.2	34.3	35.1
			FM	34.0 _(0.2)	38.1 _(0.3)	42.8 _(0.6)	87.5 _(0.4)	91.3 _(0.3)	93.2 _(0.3)	33.4	34.6	35.4
			IG	33.5 _(0.1)	37.2 _(0.3)	41.4 _(0.5)	88.3 _(0.4)	92.0 _(0.3)	93.8 _(0.3)	33.3	34.4	35.2

Table 2: Mean average cost per hour, mean percentage served immediately, and mean number of servers used for 100 simulations for each forecasting method for different values of q . Standard errors in parentheses.