

Table S1. Timber production and direct operational costs of the Novotný LV55 forwarder

Item	Year									Total	Monthly	Annual	Share
	2008	2009	2010	2011	2012	2013	2014	2015	2016				
	(EUR)												
Amortization	12 618	15 864	16 592	17 064	16 691	4 039	0	0	0	82 867	846	10 147	12.5
Services	5 321	6 341	6 696	5 717	7 363	5 88	6 463	2 626	245	46 651	476	5 712	7
Materials	10 04	8 113	12 262	14 921	14 61	12 848	13 168	9 886	3 38	99 23	1 013	12 151	14.9
Personnel	34 339	36 701	56 486	55 501	58 775	65 712	56 687	57 526	14 871	436 598	4 455	53 461	65.6
Total	62 319	67 019	92 035	93 203	97 439	88 479	76 318	70 038	18 496	665 346	6 789	81 471	100
Forwarded volume(m ³)	9 727	14 301	14 048	13 85	12 283	14 14	15 424	15 909	5 135	114 817	1 172	14 059	X
Operational time (MH)	2 758	2 583	3 114	3 185	2 856	2 751	2 752	2 498	883	23 38	239	2 863	X
Delays (h)	520	865	372	445	720	820	810	850	502	5 904	60	723	X
Machine utilization (%)	84.1	74.9	89.3	87.7	79.9	77	77.3	74.6	63.8	79.8	X	X	X
Costs (EUR/m ³)	6.41	4.69	6.55	6.73	7.93	6.26	4.95	4.4	3.6	5.71*	X	X	X
Costs (EUR/MH)	22.6	25.95	29.56	29.26	34.12	32.16	27.73	28-Apr	20.95	28.36*	X	X	X
Productivity (m ³ /MH)	3.5	5.5	4.5	4.3	4.3	5.1	5.6	6.4	5.8	5.1*	X	X	X
Forwarding distance (m)	369	276	404	316	392	445	435	411	453	389	X	X	X

Table S2. Timber production and direct operational costs of the John Deere 1010 forwarder

Item	Year										Total	Monthly	Annual	Share
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015				
	(EUR)													
Amortization	24 934	25 455	28 333	26 715	27 941	28 736	7 552	0	0	0	169 665	1 529	16 937	15.7
Services	29 746	38 99	14 584	27 848	15 291	35 827	41 4	9 362	24 29	1 823	239 161	2 155	23 916	22.1
Materials	47 674	47 069	37 228	22 178	24 562	29 121	26 684	28 751	25 258	4 924	293 449	2 644	29 345	27.1
Personnel	43 96	46 614	46 599	37 244	38 959	36 081	39 62	45 225	35 891	9 544	379 736	3 421	37 974	35.1
Total	146 313	158 127	126 744	113 986	106 753	129 765	115 256	83 338	85 439	16 291	1 082 011	9 748	108 201	100
Forwarded volume(m ³)	34 604	28 945	25 845	25 855	22 107	21 286	22 084	23 483	20 449	4 045	228 703	2 06	24 725	x
Operational time (MH)	3 697	3 896	3 088	2 512	2 752	2 468	2 69	2 615	2 417	490	26 625	240	3 26	x
Delays (h)	2 141	1 599	987	1 365	828	1 484	1 195	1 219	1 176	94	12 088	109	1 48	x
Machine utilization (%)	63.3	70.9	75.8	64.8	76.9	62.4	69.2	68.2	67.3	83.9	68.8	x	x	x
Costs (EUR/m ³)	4.23	5.46	4.9	4.41	4.83	6.1	5.22	3.55	4.18	4.03	4.73*	x	x	x
Costs (EUR/MH)	39.58	40.59	41.04	45.38	38.79	52.58	42.85	31.87	35.35	33.25	40.69*			
Productivity (m ³ /MH)	9.4	7.4	8.4	10.3	8	8.6	8.2	9	8.8	8.3	8.6*	x	x	x
Forwarding distance (m)	272	267	460	261	336	335	348	296	318	442	321	x	x	x

Table S3. Timber production and direct operational costs of the John Deere 1110E forwarder							
Item	Year			Total	Monthly	Annual	Share
	2017	2018	2019				
	(EUR)						(%)
Amortization	60 772	68.08	68 001	196 853	5 624	67 492	42.2
Services	3 019	6 029	6 242	15 29	437	5 242	3.3
Materials	27 865	29 819	33 37	91 054	2 602	31 219	19.5
Personnel	48 556	52 146	62 424	163 127	4 661	55 929	35
Total	140 212	156 075	170 037	466 324	13 324	159 882	100
Forwarded volume(m ³)	22 544	21 613	24 752	68 909	1 969	23 626	X
Operational time (MH)	2 126	2.1	2 015	6 241	178	2 14	X
Delays (h)	1 188	1 375	1 452	4 015	115	1 377	X
Machine utilization (%)	64.2	60.4	58.1	60.9	X	X	X
Costs (EUR/m ³)	6.22	7.22	6.87	6.77	X	X	X
Costs (EUR/MH)	65.95	74.32	84.39	74.72	X	X	X
Productivity (m ³ /MH)	10.6	10.3	12.3	11	X	X	X
Forwarding distance (m)	491	560	529	526	X	X	X