

Online appendix / Supplementary materials

Figures

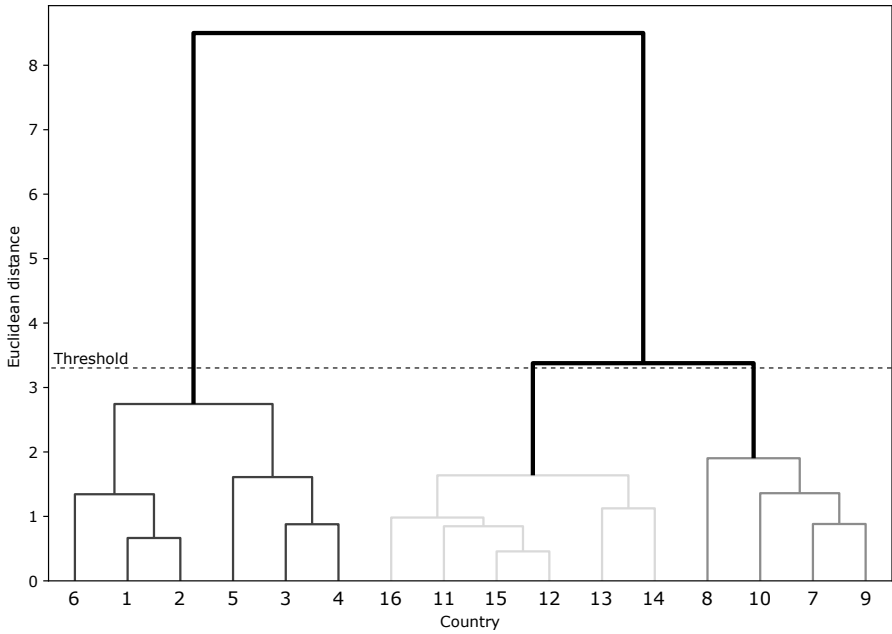


Figure OA.1: European credit portfolios: Dendrogram of the agglomerative hierarchical clustering.

Note. The country names are made anonymous owing to a non-disclosure agreement. The dendrogram is interpreted as follows: First, each part of the x-axis corresponds to the LGD distribution of a specific country and represents an initial cluster. Second, horizontal lines are merged clusters and vertical lines indicate which clusters were part of forming that new cluster. Third, the heights of the horizontal lines (y-axis) show the distance, that is, the (dis)similarity among the merged clusters. The key to determining the final number of clusters is to focus on the heights. By inserting a predefined threshold (dashed horizontal line), which defines the maximal distance (dissimilarity) among all clusters, the number of clusters is given by the number of vertical lines that cross this threshold. Given that three vertical lines cross the threshold, we end up with three final clusters.

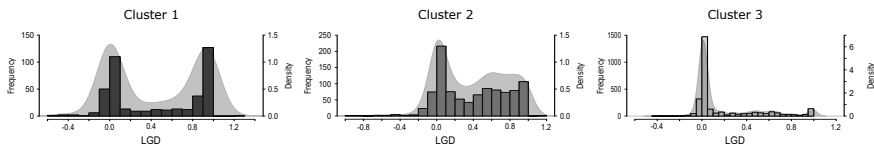


Figure OA.2: Inclusion of enterprise-specific variables: LGD frequency and approximated density distributions of the European clusters.

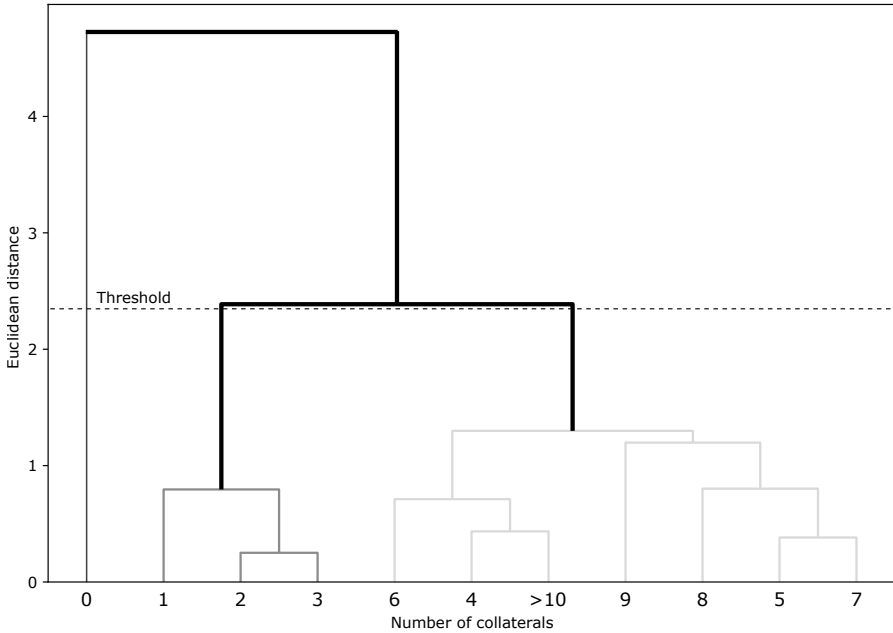


Figure OA.3: Clustering based on loan-specific variable: Dendrogram of the agglomerative hierarchical clustering.

Note. The dendrogram is interpreted as follows: First, each part of the x-axis corresponds to the LGD distribution of a specific number of collaterals and represents an initial cluster. Second, horizontal lines are merged clusters and vertical lines indicate which clusters were part of forming that new cluster. Third, the heights of the horizontal lines (y-axis) show the distance, that is, the (dis)similarity among the merged clusters. The key to determining the final number of clusters is to focus on the heights. By inserting a predefined threshold (dashed horizontal line), which defines the maximal distance (dissimilarity) among all clusters, the number of clusters is given by the number of vertical lines that cross this threshold. Given that three vertical lines cross the threshold, we end up with three final clusters.

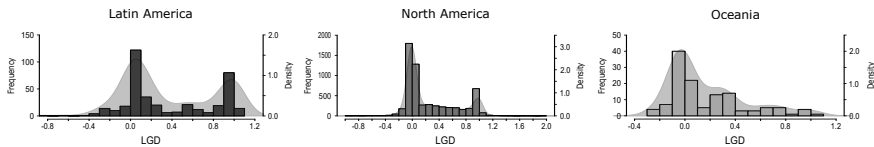


Figure OA.4: Non-European credit portfolios: LGD frequency and approximated density distributions.

Tables

Table OA.1: European credit portfolios: Test statistics for the comparisons of the LGD distributions.

Note. Values are paired t statistics and U statistics, respectively. †, *, **, and *** imply significance at the 10%, 5%, 1%, and 0.1% levels

Paired t-tests			
	Cluster 1	Cluster 2	Cluster 3
Cluster 1	-		
Cluster 2	-12.1608***	-	
Cluster 3	22.5953***	30.9241***	-

Paired Mann-Whitney U tests			
	Cluster 1	Cluster 2	Cluster 3
Cluster 1	-		
Cluster 2	5.1E+07***	-	
Cluster 3	3.0E+07***	4.1E+06***	-

Table OA.2: European credit portfolios: Paired t-test for comparisons of mean MSE of the TOP5 methods.

Note. Values are paired t statistics where a negative value means the mean MSE (that is, the MSEs of all splits are considered) for the method on the vertical axis is worse than that for the method on the horizontal axis, and vice versa. †, *, **, and *** imply significance at the 10%, 5%, 1%, and 0.1% levels.

Cluster 1: (nearly) symmetric bimodal LGD distribution					
	<i>RF</i>	<i>GB</i>	<i>SVR</i>	<i>CUB</i>	<i>CIT</i>
<i>RF</i>	-				
<i>GB</i>	-2.0898*	-			
<i>SVR</i>	-2.4173*	-0.5926	-		
<i>CUB</i>	-2.4362*	-0.4377	-0.1006	-	
<i>CIT</i>	-2.8967**	-0.7428	-0.1859	-0.2637	-

Cluster 2: asymmetric (positively skewed) bimodal LGD distribution					
	<i>GB</i>	<i>RF</i>	<i>GAPR</i>	<i>SVR</i>	<i>CUB</i>
<i>GB</i>	-				
<i>RF</i>	-2.4225*	-			
<i>GAPR</i>	-2.9307**	-0.5263	-		
<i>SVR</i>	-3.1412**	-0.7891	-0.2727	-	
<i>CUB</i>	-3.1659**	-0.8689	-0.3644	-0.0963	-

Cluster 3: (positively skewed) unimodal LGD distribution					
	<i>FMM</i>	<i>RF</i>	<i>GB</i>	<i>CUB</i>	<i>SVR</i>
<i>FMM</i>	-				
<i>RF</i>	-4.3298***	-			
<i>GB</i>	-4.9064***	-0.4211	-		
<i>CUB</i>	-5.8791***	-1.3845	-0.9880	-	
<i>SVR</i>	-7.4937***	-1.7184	-1.2601	-0.0848	-

Table OA.3: European credit portfolios: Paired t-test for comparisons of mean MAE of the TOP5 methods.

Note. Values are paired t statistics where a negative value means the mean MAE (that is, the MAEs of all splits are considered) for the method on the vertical axis is worse than that for the method on the horizontal axis, and vice versa. †, *, **, and *** imply significance at the 10%, 5%, 1%, and 0.1% levels.

Cluster 1: (nearly) symmetric bimodal LGD distribution					
	<i>RF</i>	<i>CUB</i>	<i>RVR</i>	<i>ANN</i>	<i>GB</i>
<i>RF</i>	-				
<i>CUB</i>	-1.7231 [†]	-			
<i>RVR</i>	-1.7952 [†]	-1.0942	-		
<i>ANN</i>	-1.8380 [†]	-1.0850	-1.1446	-	
<i>GB</i>	-1.8430 [†]	-1.0655	-1.0643	-1.2362	-

Cluster 2: asymmetric (positively skewed) bimodal LGD distribution					
	<i>GB</i>	<i>CUB</i>	<i>SVR</i>	<i>ANN</i>	<i>KNN</i>
<i>GB</i>	-				
<i>CUB</i>	-2.1196 [*]	-			
<i>SVR</i>	-2.1282 [*]	-2.0823 [*]	-		
<i>ANN</i>	-2.6928 ^{**}	-2.6324 ^{**}	-1.5587	-	
<i>KNN</i>	-3.4347 ^{***}	-3.3545 ^{***}	-1.2826	-0.7213	-

Cluster 3: (positively skewed) unimodal LGD distribution					
	<i>FMM</i>	<i>RF</i>	<i>CUB</i>	<i>GB</i>	<i>KNN</i>
<i>FMM</i>	-				
<i>RF</i>	-2.1147 [*]	-			
<i>CUB</i>	-2.1283 [*]	-1.5338	-		
<i>GB</i>	-2.2824 [*]	-1.9198	-0.3436	-	
<i>KNN</i>	-2.7165 ^{**}	-2.3386 [*]	-0.8078	-0.4862	-

Table OA.4: European credit portfolios: Out-of-sample estimation accuracies (R^2).

Note. This table reports the R^2 of the out-of-sample estimation for the considered LGD methods. Low values for R^2 imply a bad fit.

Cluster 1: (nearly) symmetric bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.1733	0.1828	0.1715	0.1794	0.1807	0.1799	0.1828	0.1788	0.1613	0.2286	0.1719	0.1962	0.1817	0.1645	0.1765	0.1652	0.1746	0.1102	0.1729	0.1786
70/30	0.1769	0.1664	0.1778	0.1805	0.1813	0.1903	0.1818	0.1672	0.1878	0.2402	0.1709	0.1879	0.1916	0.1720	0.1872	0.1614	0.1860	0.1127	0.1771	0.1835
80/20	0.1960	0.1865	0.1953	0.1878	0.1882	0.1776	0.1806	0.1854	0.2092	0.2438	0.1963	0.2012	0.1925	0.1970	0.1897	0.1992	0.1954	0.1331	0.1798	0.1939
90/10	0.2093	0.2169	0.2108	0.2016	0.2008	0.2004	0.2019	0.2147	0.2105	0.2636	0.2145	0.2340	0.2059	0.2093	0.2251	0.2269	0.2107	0.1565	0.2269	0.2078
Mean	0.1889	0.1881	0.1889	0.1873	0.1878	0.1870	0.1868	0.1865	0.1922	<u>0.2440</u>	0.1884	0.2048	0.1930	0.1857	0.1946	0.1882	0.1916	0.1281	0.1892	0.1909
Cluster 2: asymmetric (positively skewed) bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.1934	0.1964	0.1935	0.1965	0.1964	0.1980	0.2043	0.2115	0.2140	0.2268	0.1435	0.2519	0.2147	0.2121	0.2168	0.2107	0.2214	0.2110	0.2148	0.2133
70/30	0.1991	0.1992	0.1991	0.1991	0.1993	0.1982	0.2103	0.2176	0.2202	0.2293	0.1490	0.2537	0.2198	0.2165	0.2187	0.2170	0.2231	0.2174	0.2181	0.2148
80/20	0.2036	0.2032	0.1945	0.1991	0.1976	0.1966	0.2074	0.2193	0.2221	0.2274	0.1585	0.2576	0.2214	0.2185	0.2235	0.2170	0.2238	0.2161	0.2107	0.2221
90/10	0.2167	0.2119	0.2100	0.2122	0.2120	0.2088	0.2121	0.2293	0.2374	0.2495	0.1670	0.2701	0.2440	0.2270	0.2452	0.2257	0.2420	0.2267	0.2367	0.2379
Mean	0.2032	0.2027	0.1993	0.2017	0.2013	0.2004	0.2086	0.2194	0.2234	0.2332	0.1545	<u>0.2583</u>	0.2249	0.2185	0.2261	0.2176	0.2276	0.2178	0.2201	0.2220
Cluster 3: (positively skewed) unimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.1357	0.1497	0.1052	0.1545	0.1474	0.1450	0.1163	0.2877	0.3134	0.3708	0.1892	0.3670	0.3301	0.1597	0.3303	0.3115	0.3283	0.3258	0.2812	0.4825
70/30	0.1463	0.1479	0.1342	0.1503	0.1522	0.1612	0.1339	0.2909	0.3189	0.4210	0.1887	0.3952	0.3711	0.1695	0.3664	0.3326	0.3421	0.3422	0.2763	0.5674
80/20	0.1793	0.1563	0.1356	0.1702	0.1731	0.1727	0.1445	0.3009	0.3335	0.4329	0.2148	0.4134	0.3899	0.1878	0.3832	0.3225	0.3434	0.3495	0.2965	0.5300
90/10	0.2033	0.1845	0.1500	0.1837	0.1901	0.1855	0.1882	0.3204	0.3472	0.4553	0.2735	0.4590	0.4252	0.2256	0.4296	0.3579	0.3706	0.3520	0.3199	0.5404
Mean	0.1661	0.1596	0.1313	0.1647	0.1657	0.1661	0.1457	0.3000	0.3282	0.4200	0.2165	0.4086	0.3791	0.1856	0.3773	0.3311	0.3461	0.3424	0.2935	<u>0.5301</u>

Table OA.5: Inclusion of enterprise-specific variables: Descriptive statistics.

Note. The table presents the means and quantiles of empirical LGDs (in %) for different loan categories.

	Quantiles					Mean	Obs.
	0.05	0.25	0.50	0.75	0.95		
<i>LGD_{overall}</i>	-3.00	0.79	3.17	52.51	97.50	25.51	4268
log(<i>EAD</i>)	8.24	9.56	10.59	12.20	14.37	10.91	4268
Number of collateralals	0.00	0.00	1.00	1.00	4.00	1.13	4268
Number of guarantors	0.00	0.00	0.00	0.00	4.00	0.52	4268
log(Entity sales)	10.974	13.17	14.25	15.45	17.00	14.10	4268
log(Entity assets)	11.52	13.55	14.60	15.40	16.80	14.38	4268
log(Entity total debt)	10.98	13.18	14.29	15.08	16.44	13.97	4268
<i>LGD conditional to guarantee availability:</i>							
No guarantee	-4.90	0.40	15.74	56.17	89.49	28.05	3673
Guarantee	-2.70	0.83	2.87	51.27	97.76	25.10	595
<i>LGD conditional to collateral type:</i>							
No collateral	-4.60	0.22	22.36	64.64	96.35	33.24	2064
Real estate	-6.15	0.19	8.28	57.02	95.01	27.53	574
Other	0.38	1.05	1.96	5.11	100.00	15.00	2064
<i>LGD conditional to facility type:</i>							
Medium term	-2.81	0.85	3.25	52.09	96.37	25.41	3987
Short term	-9.13	0.15	2.47	67.74	100.00	28.48	234
Other	-9.55	0.01	0.93	31.46	97.87	18.70	47
<i>LGD conditional to seniority type:</i>							
Pari-passu	-5.32	0.00	3.29	48.68	97.59	23.51	1569
Super senior	-0.78	1.09	2.92	55.03	97.56	26.19	2602
Non senior	0.12	6.54	30.73	68.80	91.79	39.57	97
<i>LGD conditional to industry type:</i>							
Finance, insurance, real estate	-6.76	0.37	5.89	51.31	94.38	25.60	343
Agriculture, forestry, fishing, hunting	-6.27	-1.82	4.09	55.09	100.00	26.34	111
Mining	-3.71	0.93	1.12	34.13	96.40	20.41	50
Construction	-2.76	0.21	2.27	48.16	95.74	24.05	518
Manufacturing	-7.18	0.26	5.68	61.01	97.57	27.35	432
Transp., commu.,elec., gas, sani. serv.	-0.40	1.03	1.93	29.70	87.10	17.80	1269
Wholesale and retail trade	-2.18	0.42	3.00	52.09	97.10	26.36	835
Services	-1.60	0.71	15.08	83.80	99.41	35.72	251
Other	-5.33	3.84	33.43	72.83	100.00	39.89	459

Table OA.6: Inclusion of enterprise-specific variables: Out-of-sample estimation accuracies (MAE).

Note. This table reports the MAE of the out-of-sample estimation for the considered LGD methods. High values for MAE imply a bad fit.

Cluster 1: (nearly) symmetric bimodal LGD distribution																				
Split	OLS	bOLS	LAR	RR	LR	ER	FLR	RT	CIT	RF	ADA	GB	CUB	ANN	SVR	RVR	GAPR	KNN	MARS	FMM
60/40	0.2883	0.2901	0.2883	0.2892	0.3016	0.3003	0.2861	0.3028	0.2816	0.2829	0.3012	0.2782	0.2847	0.2881	0.2958	0.2925	0.2880	0.3137	0.2859	0.2819
70/30	0.2835	0.2884	0.2861	0.2862	0.2920	0.2911	0.2851	0.2947	0.2804	0.2821	0.2998	0.2891	0.2826	0.2870	0.2930	0.2888	0.2904	0.3090	0.2886	0.2826
80/20	0.2819	0.2872	0.2864	0.2879	0.2895	0.2908	0.2868	0.2918	0.2870	0.2764	0.2972	0.2809	0.2765	0.2862	0.2933	0.2864	0.2874	0.2877	0.2871	0.2766
90/10	0.2911	0.2816	0.2837	0.2842	0.2779	0.2800	0.2827	0.2806	0.2802	0.2728	0.2910	0.2661	0.2713	0.2803	0.2831	0.2773	0.2847	0.2834	0.2822	0.2736
Mean	0.2862	0.2868	0.2861	0.2869	0.2902	0.2906	0.2852	0.2925	0.2823	<u>0.2786</u>	0.2973	<u>0.2786</u>	0.2788	0.2854	0.2913	0.2862	0.2876	0.2985	0.2860	0.2787
Cluster 2: asymmetric (positively skewed) bimodal LGD distribution																				
Split	OLS	bOLS	LAR	RR	LR	ER	FLR	RT	CIT	RF	ADA	GB	CUB	ANN	SVR	RVR	GAPR	KNN	MARS	FMM
60/40	0.2668	0.2647	0.2618	0.2637	0.2708	0.2676	0.2605	0.2543	0.2452	0.2668	0.2796	0.2546	0.2528	0.2459	0.2693	0.2461	0.2724	0.2648	0.2540	0.2306
70/30	0.2630	0.2721	0.2689	0.2684	0.2830	0.2778	0.2774	0.2592	0.2569	0.2753	0.2955	0.2544	0.2515	0.2627	0.2752	0.2638	0.2690	0.2744	0.2586	0.2708
80/20	0.2600	0.2748	0.2836	0.2634	0.2796	0.2734	0.2706	0.2490	0.2515	0.2513	0.3072	0.2354	0.2421	0.2560	0.2615	0.2569	0.2559	0.2679	0.2508	0.3208
90/10	0.2784	0.2891	0.2901	0.2840	0.2926	0.2918	0.3044	0.2403	0.2232	0.2381	0.3141	0.2312	0.2692	0.2263	0.2522	0.2276	0.2469	0.2505	0.2362	0.2730
Mean	0.2671	0.2752	0.2761	0.2699	0.2815	0.2777	0.2782	0.2507	0.2442	0.2578	0.2991	<u>0.2439</u>	0.2539	0.2477	0.2646	0.2486	0.2611	0.2644	0.2499	0.2738
Cluster 3: (positively skewed) unimodal LGD distribution																				
Split	OLS	bOLS	LAR	RR	LR	ER	FLR	RT	CIT	RF	ADA	GB	CUB	ANN	SVR	RVR	GAPR	KNN	MARS	FMM
60/40	0.2034	0.2079	0.2299	0.2057	0.2276	0.2275	0.2536	0.1415	0.1508	0.1817	0.2219	0.1667	0.1412	0.2219	0.2107	0.1689	0.1666	0.1405	0.1730	0.1248
70/30	0.2064	0.2083	0.2240	0.2089	0.2221	0.2232	0.2532	0.1459	0.1507	0.1718	0.2364	0.1588	0.1382	0.2381	0.2081	0.1657	0.1668	0.1453	0.1701	0.1237
80/20	0.2053	0.2088	0.1844	0.2053	0.2275	0.2272	0.2538	0.1419	0.1479	0.1734	0.2062	0.1716	0.1340	0.2084	0.2074	0.1672	0.1625	0.1355	0.1693	0.1175
90/10	0.2097	0.2095	0.2322	0.2097	0.2296	0.2282	0.2435	0.1375	0.1443	0.1698	0.1925	0.1481	0.1280	0.1925	0.2066	0.1707	0.1599	0.1368	0.1723	0.1126
Mean	0.2062	0.2086	0.2176	0.2074	0.2267	0.2265	0.2510	0.1417	0.1484	0.1742	0.2142	0.1613	0.1354	0.2152	0.2082	0.1681	0.1640	0.1395	0.1712	<u>0.1197</u>

Table OA.7: Inclusion of enterprise-specific variables: Out-of-sample estimation accuracies (R^2).

Note. This table reports the R^2 of the out-of-sample estimation for the considered LGD methods. Low values for R^2 imply a bad fit.

Cluster 1: (nearly) symmetric bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.1230	0.1128	0.1230	0.1195	0.1198	0.1249	0.1366	0.1130	0.1370	0.1851	0.1345	0.1584	0.1075	0.1266	0.1525	0.1022	0.1429	0.0624	0.1354	0.1229
70/30	0.1633	0.1421	0.1499	0.1507	0.1583	0.1521	0.1572	0.1324	0.1659	0.2202	0.1563	0.1675	0.1497	0.1475	0.1772	0.1360	0.1590	0.0945	0.1598	0.1497
80/20	0.2211	0.2047	0.1990	0.1918	0.1965	0.1901	0.1970	0.1850	0.1874	0.2626	0.2043	0.1783	0.2145	0.2005	0.2041	0.1990	0.2065	0.1561	0.1986	0.2142
90/10	0.2212	0.2625	0.2527	0.2492	0.2383	0.2438	0.2292	0.2408	0.2502	0.2921	0.2336	0.2798	0.2589	0.2367	0.2430	0.2805	0.2647	0.1975	0.2363	0.2500
Mean	0.1822	0.1805	0.1811	0.1778	0.1782	0.1777	0.1800	0.1678	0.1851	<u>0.2400</u>	0.1822	0.1960	0.1826	0.1778	0.1942	0.1794	0.1933	0.1276	0.1826	0.1842
Cluster 2: asymmetric (positively skewed) bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.3580	0.3676	0.3687	0.3637	0.3724	0.3693	0.3768	0.3676	0.3727	0.3785	0.3745	0.3809	0.3628	0.3627	0.3721	0.3590	0.3634	0.3741	0.3708	0.3715
70/30	0.3790	0.3754	0.3766	0.3700	0.3691	0.3713	0.3812	0.4118	0.3954	0.3898	0.3799	0.3924	0.3834	0.3816	0.3692	0.3788	0.3851	0.3839	0.4133	0.3884
80/20	0.3606	0.3617	0.3483	0.3524	0.3468	0.3489	0.3530	0.3850	0.3904	0.4239	0.3519	0.4366	0.3977	0.3793	0.4153	0.3770	0.4284	0.3606	0.3839	0.3800
90/10	0.3310	0.3284	0.3176	0.3313	0.3276	0.3276	0.3394	0.3402	0.3550	0.3896	0.3070	0.4063	0.4042	0.3430	0.3957	0.3381	0.4097	0.3239	0.3559	0.4048
Mean	0.3572	0.3583	0.3528	0.3544	0.3540	0.3543	0.3626	0.3761	0.3784	0.3954	0.3533	<u>0.4041</u>	0.3870	0.3667	0.3881	0.3632	0.3966	0.3606	0.3810	0.3862
Cluster 3: (positively skewed) unimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.0298	-0.0038	-0.0265	0.0055	0.0103	0.0107	-0.0265	0.1465	0.1844	0.2807	0.0416	0.2764	0.2335	0.0416	0.2722	0.1748	0.2143	0.1625	0.1341	0.4033
70/30	0.0303	0.0261	-0.0011	0.0055	0.0553	0.0492	0.0095	0.1888	0.2278	0.3391	0.0865	0.3245	0.2930	0.0708	0.3050	0.2204	0.2250	0.1936	0.1781	0.4362
80/20	0.0566	0.0202	-0.0058	0.0567	0.0306	0.0310	-0.0030	0.1994	0.2292	0.3481	0.0907	0.3307	0.2946	0.0690	0.3040	0.2079	0.2432	0.1936	0.1866	0.4636
90/10	0.0741	0.0773	0.0455	0.0741	0.0637	0.0708	0.1044	0.2597	0.2697	0.3706	0.1485	0.3828	0.3353	0.1485	0.3389	0.2549	0.2704	0.2236	0.2401	0.4863
Mean	0.0477	0.0300	0.0030	0.0354	0.0400	0.0404	0.0211	0.1986	0.2278	0.3346	0.0919	0.3286	0.2891	0.0825	0.3050	0.2145	0.2383	0.1933	0.1847	<u>0.4474</u>

Table OA.8: Clustering based on loan-specific variable: Test statistics for the comparisons of the LGD distributions.

Note. Values are paired t statistics and U statistics, respectively. *, **, and *** imply significance at the 5%, 1%, and 0.1% levels.

Paired t-tests			
	Cluster 1	Cluster 2	Cluster 3
Cluster 1	-		
Cluster 2	-4.9786 ***	-	
Cluster 3	40.1080 ***	15.9058 **	-

Paired Mann-Whitney U tests			
	Cluster 1	Cluster 2	Cluster 3
Cluster 1	-		
Cluster 2	6.3E+06 ***	-	
Cluster 3	7.2E+07 ***	1.6E+06 ***	-

Table OA.9: Clustering based on loan-specific variable: Out-of-sample estimation accuracies (MAE).

Note. This table reports the MAE of the out-of-sample estimation for the considered LGD methods. High values for MAE imply a bad fit.

Cluster 1: (nearly) symmetric bimodal LGD distribution																				
Split	OLS	bOLS	LAR	RR	LR	ER	FLR	RT	CIT	RF	ADA	GB	CUB	ANN	SVR	RVR	GAPR	KNN	MARS	FMM
60/40	0.3119	0.3118	0.3119	0.3128	0.3213	0.3191	0.3165	0.3120	0.3011	0.2910	0.3395	0.3069	0.2890	0.3196	0.3034	0.3041	0.3146	0.3139	0.3097	0.3271
70/30	0.3128	0.3122	0.3160	0.3142	0.3221	0.3193	0.3181	0.3043	0.3058	0.2910	0.3375	0.3042	0.2880	0.3017	0.3036	0.3019	0.3157	0.3129	0.3065	0.3288
80/20	0.3118	0.3123	0.3127	0.3133	0.3181	0.3167	0.3017	0.3067	0.3018	0.2836	0.3366	0.3047	0.2882	0.3111	0.3048	0.3027	0.3150	0.3074	0.3070	0.3308
90/10	0.3113	0.3137	0.3117	0.3121	0.3156	0.3150	0.3006	0.3054	0.3018	0.2800	0.3356	0.3004	0.2815	0.3138	0.3018	0.3010	0.3114	0.3043	0.3063	0.3263
Mean	0.3119	0.3125	0.3131	0.3131	0.3193	0.3175	0.3092	0.3071	0.3026	<u>0.2864</u>	0.3373	0.3041	0.2867	0.3116	0.3034	0.3025	0.3142	0.3096	0.3074	0.3283
Cluster 2: asymmetric (positively skewed) bimodal LGD distribution																				
Split	OLS	bOLS	LAR	RR	LR	ER	FLR	RT	CIT	RF	ADA	GB	CUB	ANN	SVR	RVR	GAPR	KNN	MARS	FMM
60/40	0.2839	0.2843	0.2860	0.2842	0.2880	0.2867	0.2860	0.2732	0.2691	0.2730	0.3236	0.2658	0.2636	0.2968	0.2759	0.2743	0.2716	0.2748	0.2772	0.2690
70/30	0.2839	0.2841	0.2856	0.2839	0.2876	0.2867	0.2862	0.2726	0.2720	0.2700	0.3242	0.2612	0.2629	0.3004	0.2756	0.2740	0.2711	0.2760	0.2766	0.2717
80/20	0.2842	0.2843	0.2835	0.2844	0.2879	0.2868	0.2506	0.2750	0.2690	0.2701	0.3208	0.2601	0.2617	0.2823	0.2761	0.2710	0.2698	0.2719	0.2765	0.2693
90/10	0.2856	0.2854	0.2872	0.2857	0.2892	0.2883	0.2360	0.2744	0.2674	0.2722	0.3222	0.2628	0.2660	0.2836	0.2765	0.2711	0.2694	0.2735	0.2775	0.2676
Mean	0.2844	0.2845	0.2856	0.2846	0.2882	0.2871	0.2647	0.2738	0.2694	0.2713	0.3227	<u>0.2625</u>	0.2635	0.2908	0.2760	0.2726	0.2705	0.2741	0.2769	0.2694
Cluster 3: (positively skewed) unimodal LGD distribution																				
Split	OLS	bOLS	LAR	RR	LR	ER	FLR	RT	CIT	RF	ADA	GB	CUB	ANN	SVR	RVR	GAPR	KNN	MARS	FMM
60/40	0.2059	0.2146	0.2082	0.2054	0.2198	0.2198	0.1903	0.1961	0.2050	0.2000	0.2136	0.1930	0.1948	0.2320	0.2219	0.1980	0.2005	0.2066	0.2114	0.1894
70/30	0.2020	0.2064	0.2054	0.2020	0.2125	0.2123	0.1874	0.2042	0.2107	0.1957	0.2115	0.1958	0.1938	0.2206	0.2199	0.1992	0.1991	0.2039	0.2091	0.1406
80/20	0.2065	0.2125	0.2086	0.2082	0.2162	0.2162	0.1695	0.2106	0.2145	0.2064	0.2164	0.2071	0.2025	0.2216	0.2234	0.1977	0.2030	0.2037	0.2146	0.1469
90/10	0.2160	0.2225	0.2198	0.2191	0.2224	0.2226	0.1789	0.2204	0.2219	0.2072	0.2267	0.2124	0.2035	0.2018	0.2247	0.1969	0.2026	0.2013	0.2253	0.2111
Mean	0.2076	0.2140	0.2105	0.2087	0.2177	0.2177	0.1815	0.2078	0.2130	0.2023	0.2171	0.2021	0.1987	0.2190	0.2225	0.1980	0.2013	0.2038	0.2151	<u>0.1720</u>

Table OA.10: Clustering based on loan-specific variable: Out-of-sample estimation accuracies (R^2).

Note. This table reports the R^2 of the out-of-sample estimation for the considered LGD methods. Low values for R^2 imply a bad fit.

Cluster 1: (nearly) symmetric bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.3022	0.3025	0.3022	0.2998	0.2987	0.2980	0.3005	0.2999	0.3066	0.3358	0.3017	0.3111	0.3087	0.2998	0.3084	0.2989	0.3041	0.2599	0.3049	0.3113
70/30	0.3019	0.3043	0.3019	0.2979	0.2983	0.2994	0.2997	0.3000	0.3052	0.3313	0.3047	0.3195	0.3044	0.2988	0.3119	0.3023	0.3036	0.2637	0.3068	0.3105
80/20	0.3155	0.3136	0.3132	0.3117	0.3120	0.3124	0.3128	0.3124	0.3197	0.3624	0.3163	0.3308	0.3231	0.3100	0.3202	0.3112	0.3135	0.2749	0.3213	0.3213
90/10	0.3190	0.3117	0.3169	0.3167	0.3159	0.3162	0.3167	0.3170	0.3207	0.3759	0.3156	0.3409	0.3336	0.3182	0.3320	0.3144	0.3190	0.2785	0.3251	0.3257
Mean	0.3096	0.3080	0.3086	0.3065	0.3062	0.3065	0.3074	0.3073	0.3130	<u>0.3514</u>	0.3096	0.3256	0.3174	0.3067	0.3181	0.3067	0.3101	0.2693	0.3145	0.3172
Cluster 2: asymmetric (positively skewed) bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.1019	0.0998	0.0991	0.0999	0.0995	0.1004	0.1008	0.1034	0.1150	0.1351	0.0739	0.1445	0.1107	0.1050	0.1287	0.1029	0.1244	0.1021	0.1052	0.1159
70/30	0.1132	0.1126	0.1106	0.1132	0.1136	0.1125	0.1104	0.1178	0.1284	0.1518	0.0789	0.1631	0.1211	0.1167	0.1433	0.1166	0.1329	0.1145	0.1187	0.1302
80/20	0.1117	0.1113	0.1109	0.1108	0.1095	0.1106	0.1139	0.1167	0.1344	0.1534	0.0914	0.1648	0.1207	0.1145	0.1438	0.1150	0.1411	0.1132	0.1210	0.1326
90/10	0.1024	0.1023	0.0996	0.1014	0.1004	0.1005	0.1076	0.1085	0.1294	0.1438	0.0864	0.1670	0.1142	0.1113	0.1413	0.1053	0.1435	0.1042	0.1136	0.1275
Mean	0.1073	0.1065	0.1051	0.1063	0.1057	0.1060	0.1082	0.1116	0.1268	0.1460	0.0827	<u>0.1598</u>	0.1167	0.1119	0.1393	0.1100	0.1355	0.1085	0.1147	0.1265
Cluster 3: (positively skewed) unimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.2552	0.2586	0.2389	0.2638	0.2469	0.2469	0.2646	0.2943	0.2993	0.3455	0.2663	0.3205	0.3265	0.2745	0.3028	0.3142	0.2991	0.3035	0.2823	0.3578
70/30	0.3334	0.3395	0.3174	0.3343	0.3334	0.3327	0.3314	0.3669	0.3773	0.4127	0.3498	0.3899	0.3933	0.3422	0.3853	0.3739	0.3643	0.3718	0.3678	0.4362
80/20	0.3483	0.3471	0.3177	0.3283	0.3337	0.3339	0.3473	0.3631	0.3728	0.4181	0.3416	0.3861	0.3941	0.3408	0.3883	0.3823	0.3770	0.3707	0.3646	0.4401
90/10	0.3609	0.3593	0.3320	0.3342	0.3521	0.3449	0.3600	0.3791	0.3877	0.4460	0.3769	0.4059	0.3982	0.3735	0.4043	0.4035	0.4059	0.3814	0.3857	0.4787
Mean	0.3244	0.3261	0.3015	0.3152	0.3165	0.3146	0.3258	0.3508	0.3593	0.4056	0.3337	0.3756	0.3780	0.3327	0.3702	0.3684	0.3616	0.3568	0.3501	<u>0.4282</u>

Table OA.11: Logarithmic transformation of unimodally distributed LGDs: Descriptive statistics.

Note. The table presents the means and quantiles of empirical LGDs (in %) for different loan categories.

	Quantiles					Mean	Obs.
	0.05	0.25	0.50	0.75	0.95		
<i>LGD_{overall}</i>	-95.34	-86.64	-81.92	-31.77	32.05	-59.61	4026
log(<i>EAD</i>)	8.41	9.56	10.61	12.43	15.07	11.07	4026
Number of collaterals	0.00	0.00	0.00	1.00	3.00	0.85	4026
Number of guarantors	0.00	0.00	0.00	0.00	3.00	0.42	4026
<i>LGD conditional to guarantee availability:</i>							
No guarantee	-98.65	-87.45	-73.10	-10.37	15.37	-52.21	3460
Guarantee	-94.66	-86.55	-82.60	-39.90	33.53	-60.82	566
<i>LGD conditional to collateral type:</i>							
No collateral	-109.56	-88.31	-72.18	-1.50	31.41	-50.53	2176
Real estate	-87.73	-85.88	-82.37	-57.48	34.50	-64.24	428
Other	-98.64	-88.63	-81.26	-11.98	28.91	-55.26	1422
<i>LGD conditional to facility type:</i>							
Medium term	-96.02	-86.80	-82.85	-32.18	30.90	-60.38	3601
Short term	-88.60	-83.65	-73.29	-27.44	34.50	-52.85	420
Other	-86.88	-86.57	-74.51	-74.51	-71.93	-78.77	5
<i>LGD conditional to seniority type:</i>							
Pari-passu	-96.12	-87.70	-73.36	-15.46	30.11	-54.94	2246
Super senior	-89.71	-86.20	-84.02	-70.14	34.39	-65.67	1716
Non senior	-119.00	-81.90	-70.55	-51.09	23.51	-61.25	64
<i>LGD conditional to industry type:</i>							
Finance, insurance, real estate	-101.97	-86.22	-55.48	2.86	34.29	-42.76	352
Agriculture, forestry, fishing, hunting	-104.55	-90.01	-77.90	3.36	34.50	-75.12	113
Mining	-100.35	-86.45	-86.03	-85.42	-5.88	-72.87	44
Construction	-96.22	-88.25	-83.31	-49.97	31.53	-63.66	447
Manufacturing	-100.61	-86.92	-76.00	-33.64	33.69	-58.65	444
Transp., commu.,elec., gas, sani. serv.	-90.82	-86.33	-84.19	-51.49	15.28	-63.50	1282
Wholesale and retail trade	-94.12	-87.67	-83.66	-52.01	31.27	-64.55	643
Services	-93.45	-85.58	-74.36	-57.48	19.92	-63.16	258
Other	-92.31	-80.58	-57.23	-5.62	34.50	-44.13	443

Table OA.12: Logarithmic transformation of unimodally distributed LGDs: Out-of-sample estimation accuracies (MAE and R^2).
 Note. This table reports the MAE and the R^2 of the out-of-sample estimation for the considered LGD methods.

MAE																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.2285	0.2306	0.2339	0.2293	0.2375	0.2363	0.2297	0.1933	0.1735	0.1668	0.1683	0.1650	0.1653	0.2508	0.2055	0.1960	0.1866	0.1740	0.1998	0.1802
70/30	0.2260	0.2247	0.2302	0.2254	0.2331	0.2307	0.2285	0.1858	0.1707	0.1674	0.1617	0.1568	0.1616	0.2041	0.2033	0.1924	0.1861	0.1655	0.1987	0.1669
80/20	0.2253	0.2269	0.2310	0.2258	0.2341	0.2323	0.2294	0.1721	0.1697	0.1622	0.1680	0.1601	0.1661	0.2460	0.1999	0.1835	0.1843	0.1728	0.1964	0.1814
90/10	0.2212	0.2251	0.2317	0.2219	0.2327	0.2294	0.2478	0.1728	0.1711	0.1590	0.1569	0.1763	0.1625	0.2492	0.1981	0.1795	0.1851	0.1569	0.1853	0.1078
Mean	0.2253	0.2268	0.2317	0.2256	0.2344	0.2322	0.2338	0.1810	0.1712	0.1639	0.1637	0.1645	0.1639	0.2375	0.2017	0.1878	0.1855	0.1673	0.1951	<u>0.1591</u>
R^2																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.5425	0.5398	0.5174	0.5386	0.5415	0.5351	0.5355	0.6251	0.6287	0.6838	0.5808	0.6487	0.6425	0.5418	0.6694	0.6054	0.6364	0.5674	0.6074	0.7475
70/30	0.5580	0.5643	0.5378	0.5612	0.5623	0.5643	0.5452	0.6340	0.6342	0.6895	0.5835	0.6534	0.6580	0.5686	0.6834	0.6324	0.6476	0.5785	0.6210	0.7565
80/20	0.5475	0.5394	0.5178	0.5450	0.5468	0.5471	0.5256	0.6197	0.6268	0.6797	0.5783	0.6513	0.6337	0.5563	0.6761	0.6175	0.6424	0.5644	0.6057	0.7424
90/10	0.5513	0.5320	0.5178	0.5481	0.5434	0.5461	0.5217	0.6186	0.6361	0.6889	0.5887	0.6385	0.6445	0.5568	0.6825	0.6161	0.6407	0.5912	0.6252	0.7402
Mean	0.5498	0.5439	0.5227	0.5483	0.5485	0.5482	0.5320	0.6244	0.6314	0.6855	0.5828	0.6480	0.6447	0.5559	0.6779	0.6178	0.6418	0.5754	0.6148	<u>0.7467</u>

Table OA.13: Non-European credit portfolios: Descriptive statistics.

Note. The table presents the means and quantiles of empirical LGDs (in %) for different loan categories.

	Quantiles					Mean	Obs.
	0.05	0.25	0.50	0.75	0.95		
<i>LGD_{overall}</i>	-9.52	-1.17	3.83	53.63	100.00	26.29	6408
log(<i>EAD</i>)	9.43	11.25	12.54	13.77	15.69	12.52	6408
Number of collaterals	0.00	1.00	1.00	2.00	6.00	1.98	6408
Number of guarantors	0.00	0.00	0.00	1.00	5.00	1.11	6408
<i>LGD conditional to guarantee availability:</i>							
No guarantee	-9.68	-0.94	5.76	59.13	100.00	27.94	4329
Guarantee	-9.26	-1.57	1.78	45.92	100.00	22.84	2079
<i>LGD conditional to collateral type:</i>							
No collateral	-4.38	6.36	40.98	100.00	100.00	49.27	626
Real estate	-12.86	-2.37	3.20	38.48	95.21	20.30	1455
Other	-8.79	-1.27	1.87	51.38	100.00	24.97	4327
<i>LGD conditional to facility type:</i>							
Medium term	-9.00	-0.09	7.73	61.78	100.00	29.74	4046
Short term	-10.91	-1.56	1.20	46.18	99.45	22.76	444
Other	-10.43	-2.60	0.64	36.83	100.00	19.82	1918
<i>LGD conditional to seniority type:</i>							
Pari-passu	-6.18	2.47	17.89	60.01	100.00	32.45	1461
Super senior	-10.29	-1.86	0.75	50.45	100.00	24.00	4849
Non senior	-0.03	0.76	41.74	99.54	100.78	47.24	98
<i>LGD conditional to industry type:</i>							
Finance, insurance, real estate	-12.01	-2.60	0.64	30.27	99.12	17.22	745
Agriculture, forestry, fishing, hunting	-12.88	0.04	2.61	27.86	100.00	19.74	269
Mining	-7.39	-0.17	5.25	41.66	97.89	22.16	75
Construction	-9.59	-1.50	4.92	56.42	100.00	26.62	905
Manufacturing	-9.18	-1.35	1.50	45.28	100.00	22.53	981
Transp., commu.,elec., gas, sani. serv.	-7.24	-1.62	2.05	40.81	100.00	24.33	338
Wholesale and retail trade	-9.35	-1.32	2.63	60.15	100.00	28.15	876
Services	-9.94	-1.13	5.44	69.98	100.00	30.89	1401
Other	-6.42	1.16	17.41	63.80	100.00	32.13	818

Table OA.14: Non-European credit portfolios: Out-of-sample estimation accuracies (*MAE*).

Note. This table reports the *MAE* of the out-of-sample estimation for the Latin American, North American, and Oceanian credit portfolios. High values for *MAE* imply a bad fit.

Latin American credit portfolio: (nearly) symmetric bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.3111	0.3170	0.3111	0.3106	0.3245	0.3247	0.3097	0.3072	0.3193	0.2826	0.3216	0.3069	0.3044	0.2653	0.3163	0.3203	0.2946	0.2972	0.2979	0.3083
70/30	0.3114	0.3213	0.3114	0.3091	0.3208	0.3215	0.3097	0.3078	0.3139	0.2745	0.3139	0.2744	0.2723	0.3275	0.3287	0.3185	0.2600	0.2933	0.2938	0.3013
80/20	0.3159	0.3307	0.3195	0.3197	0.3311	0.3317	0.3221	0.3233	0.3308	0.2605	0.3290	0.2666	0.2651	0.3321	0.3371	0.3300	0.3226	0.2681	0.3307	0.3168
90/10	0.3182	0.3304	0.3243	0.3115	0.3370	0.3341	0.3226	0.3130	0.3154	0.2601	0.3319	0.2653	0.2631	0.3425	0.3354	0.2893	0.2885	0.3155	0.2739	0.2917
Mean	0.3142	0.3248	0.3166	0.3127	0.3283	0.3280	0.3160	0.3128	0.3199	<u>0.2694</u>	0.3241	0.2783	0.2762	0.3168	0.3294	0.3145	0.2914	0.2935	0.2991	0.3045
North American credit portfolio: asymmetric (positively skewed) bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.3087	0.3087	0.3087	0.3087	0.3173	0.3139	0.3028	0.3081	0.3094	0.2914	0.3443	0.2870	0.2867	0.2934	0.3115	0.2901	0.2921	0.2958	0.3057	0.3286
70/30	0.3096	0.3093	0.3096	0.3096	0.3175	0.3144	0.3038	0.3068	0.3051	0.2907	0.3424	0.2866	0.2825	0.3077	0.3113	0.2808	0.2908	0.2961	0.2956	0.3217
80/20	0.3087	0.3076	0.3093	0.3087	0.3176	0.3148	0.3027	0.3052	0.3072	0.2888	0.3414	0.2741	0.2780	0.3091	0.3109	0.2792	0.2888	0.2944	0.2938	0.3089
90/10	0.3003	0.2991	0.3003	0.3003	0.3107	0.3144	0.2940	0.2956	0.2970	0.2808	0.3359	0.2626	0.2785	0.3184	0.3025	0.2840	0.2851	0.2873	0.2888	0.2953
Mean	0.3068	0.3062	0.3070	0.3068	0.3158	0.3144	0.3008	0.3039	0.3047	0.2879	0.3410	<u>0.2776</u>	0.2814	0.3071	0.3090	0.2835	0.2892	0.2934	0.2959	0.3136
Oceanian credit portfolio: (positively skewed) unimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.2360	0.2270	0.2790	0.2415	0.2608	0.2474	0.2741	0.2624	0.2808	0.2204	0.2799	0.2369	0.2353	0.3046	0.2538	0.2811	0.2521	0.2988	0.3075	0.1973
70/30	0.2373	0.2148	0.2689	0.2269	0.2426	0.2489	0.2642	0.2419	0.2868	0.2376	0.2740	0.2414	0.2214	0.2940	0.2527	0.2869	0.2567	0.3198	0.2983	0.1823
80/20	0.2411	0.2294	0.2467	0.2077	0.2334	0.2161	0.2802	0.2339	0.2942	0.2393	0.2777	0.2600	0.2037	0.2965	0.2740	0.2794	0.2549	0.3345	0.3000	0.1773
90/10	0.1992	0.1966	0.2144	0.1686	0.2431	0.2196	0.2935	0.2422	0.2788	0.2507	0.2703	0.2493	0.1628	0.3033	0.2849	0.2864	0.2488	0.3353	0.3056	0.1668
Mean	0.2284	0.2169	0.2523	0.2112	0.2450	0.2330	0.2780	0.2451	0.2851	0.2370	0.2755	0.2469	0.2058	0.2996	0.2664	0.2835	0.2531	0.3221	0.3028	<u>0.1809</u>

Table OA.15: Non-European credit portfolios: Out-of-sample estimation accuracies (R^2).

Note. This table reports the R^2 of the out-of-sample estimation for the considered LGD methods. Low values for R^2 imply a bad fit.

Latin American credit portfolio: (nearly) symmetric bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.2558	0.2231	0.2621	0.2627	0.2172	0.2163	0.2665	0.2268	0.2502	0.3339	0.2421	0.2093	0.2190	0.2321	0.2418	0.2464	0.3329	0.2339	0.2250	0.2901
70/30	0.2755	0.2339	0.2755	0.2845	0.2338	0.2390	0.2862	0.2579	0.2719	0.4205	0.2719	0.4124	0.4194	0.2515	0.2612	0.2775	0.4599	0.2517	0.2383	0.3225
80/20	0.2819	0.2261	0.2704	0.2663	0.2289	0.2254	0.2730	0.2309	0.2660	0.4274	0.2656	0.3611	0.3684	0.2474	0.2451	0.2695	0.2894	0.2294	0.2261	0.3234
90/10	0.2313	0.1832	0.2174	0.2595	0.1852	0.1800	0.2323	0.1934	0.2841	0.3860	0.2174	0.3622	0.3718	0.2058	0.2263	0.2826	0.3852	0.2198	0.2015	0.3764
Mean	0.2611	0.2166	0.2564	0.2682	0.2163	0.2152	0.2645	0.2273	0.2680	<u>0.3920</u>	0.2493	0.3362	0.3446	0.2342	0.2436	0.2690	0.3668	0.2337	0.2227	0.3281
North American credit portfolio: asymmetric (positively skewed) bimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.0896	0.0872	0.0896	0.0897	0.0640	0.0775	0.1094	0.0712	0.0714	0.1550	0.0398	0.1507	0.1088	0.0780	0.1008	0.0754	0.1229	0.0737	0.0843	0.1036
70/30	0.0864	0.0859	0.0864	0.0865	0.0636	0.0759	0.1066	0.0689	0.0884	0.1603	0.0410	0.1619	0.1364	0.0751	0.1014	0.0744	0.1364	0.0724	0.1238	0.1026
80/20	0.0969	0.1021	0.0960	0.0969	0.0670	0.0786	0.1176	0.0920	0.0844	0.1744	0.0519	0.2076	0.1657	0.0942	0.1038	0.0868	0.1505	0.0726	0.1369	0.1479
90/10	0.1035	0.1073	0.1035	0.1036	0.0625	0.0510	0.1253	0.0737	0.1033	0.1667	0.0313	0.1760	0.1225	0.0608	0.1041	0.0609	0.1291	0.0673	0.1312	0.1322
Mean	0.0941	0.0956	0.0939	0.0942	0.0643	0.0708	0.1147	0.0765	0.0869	0.1641	0.0410	<u>0.1741</u>	0.1334	0.0770	0.1025	0.0744	0.1347	0.0715	0.1191	0.1216
Oceanian credit portfolio: (positively skewed) unimodal LGD distribution																				
Split	<i>OLS</i>	<i>bOLS</i>	<i>LAR</i>	<i>RR</i>	<i>LR</i>	<i>ER</i>	<i>FLR</i>	<i>RT</i>	<i>CIT</i>	<i>RF</i>	<i>ADA</i>	<i>GB</i>	<i>CUB</i>	<i>ANN</i>	<i>SVR</i>	<i>RVR</i>	<i>GAPR</i>	<i>KNN</i>	<i>MARS</i>	<i>FMM</i>
60/40	0.0888	0.0856	0.0314	0.1003	0.1065	0.1095	0.0858	0.1038	0.0734	0.2533	0.0978	0.1157	0.0958	0.0782	0.0955	0.0714	0.1357	0.0274	0.0774	0.3725
70/30	0.0861	0.1012	0.0321	0.1161	0.1076	0.1087	0.0991	0.1128	0.0753	0.2046	0.0978	0.1164	0.0962	0.0783	0.0959	0.0721	0.1463	0.0271	0.0771	0.4274
80/20	0.0836	0.0865	0.0332	0.1236	0.1092	0.1096	0.0996	0.1131	0.0734	0.2648	0.0982	0.1168	0.0961	0.0784	0.0964	0.0724	0.1793	0.0269	0.0778	0.4437
90/10	0.0850	0.0990	0.0342	0.1258	0.1142	0.1092	0.1000	0.1138	0.0743	0.2533	0.0976	0.1176	0.0966	0.0843	0.0964	0.0724	0.2033	0.0282	0.0782	0.4604
Mean	0.0859	0.0931	0.0327	0.1165	0.1094	0.1093	0.0961	0.1109	0.0741	0.2440	0.0979	0.1166	0.0962	0.0798	0.0961	0.0721	0.1661	0.0274	0.0776	<u>0.4260</u>