



Supplemental Operational Performance Data

Set forth below are tables that provide supplemental information regarding the operational performance results for the three months ended June 30, 2019, as well as the prior eight quarterly reporting periods for the payment programs of Mastercard International Incorporated and Mastercard Europe SA (collectively, "Mastercard"), the principal operating subsidiaries of Mastercard Incorporated.

1. Branded Volume and Transactions

The tables below set forth the gross dollar volume ("GDV"), purchase volume, cash volume and the number of purchase transactions, cash transactions, and cards on a regional basis for Mastercard™-branded cards. Growth rates over prior periods are provided for volume-based data.

GDV (\$ Billions)													
All Mastercard Credit,													
Charge, Debit and Prepaid Programs										FY 2017		FY 2018	
	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19				
APMEA	\$388	\$407	\$431	\$440	\$453	\$446	\$469	\$459	\$478	\$1,595	\$1,809		
Canada	39	41	43	39	44	44	46	39	46	157	173		
Europe	356	395	413	407	435	438	459	429	479	1,476	1,738		
Latin America	92	97	106	102	100	99	111	105	110	382	412		
Worldwide less United States	875	941	994	988	1,032	1,027	1,085	1,032	1,112	3,610	4,133		
United States	404	407	422	419	442	442	465	451	486	1,613	1,769		
Worldwide	1,279	1,347	1,416	1,407	1,475	1,469	1,551	1,483	1,598	5,223	5,902		
Mastercard Credit and Charge Programs													
Worldwide less United States	475	508	530	528	545	535	560	530	559	1,957	2,168		
United States	196	198	207	194	211	213	228	212	237	780	846		
Worldwide	671	705	737	722	756	748	788	742	796	2,736	3,014		
Mastercard Debit and Prepaid Programs													
Worldwide less United States	400	433	464	461	487	493	525	503	553	1,654	1,965		
United States	208	209	215	225	232	229	238	238	249	833	923		
Worldwide	609	642	679	685	718	722	763	741	802	2,487	2,888		

GDV Local Growth													
All Mastercard Credit,													
Charge, Debit and Prepaid Programs										FY 2017		FY 2018	
	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19				
APMEA	7.0%	8.2%	12.2%	13.1%	14.1%	12.9%	13.4%	10.3%	10.6%	8.9%	13.4%		
Canada	10.2%	8.6%	9.6%	9.5%	9.2%	10.3%	11.6%	5.8%	7.6%	10.0%	10.2%		
Europe	5.0%	14.8%	16.0%	18.8%	19.6%	18.6%	19.8%	17.4%	18.6%	9.6%	19.2%		
<i>Europe adjusted for Article 8</i>	<i>15%</i>	<i>16%</i>	<i>17%</i>							<i>16%</i>			
Latin America	15.1%	14.6%	16.4%	17.0%	17.2%	16.2%	16.8%	13.5%	15.9%	15.4%	16.8%		
Worldwide less United States	7.1%	11.5%	14.1%	15.6%	16.4%	15.5%	16.3%	13.3%	14.3%	9.9%	16.0%		
<i>WW less USA adjusted for Article 8</i>	<i>11%</i>	<i>12%</i>	<i>15%</i>							<i>12%</i>			
United States	3.5%	6.2%	9.1%	10.5%	9.4%	8.7%	10.2%	7.5%	9.9%	5.2%	9.7%		
Worldwide	5.9%	9.9%	12.6%	14.1%	14.2%	13.4%	14.4%	11.5%	12.9%	8.4%	14.0%		
<i>Worldwide adjusted for Article 8</i>	<i>9%</i>	<i>10%</i>	<i>13%</i>							<i>10%</i>			
Mastercard Credit and Charge Programs													
Worldwide less United States	6.8%	8.7%	10.3%	11.7%	12.8%	11.6%	12.8%	8.9%	9.5%	8.3%	12.2%		
United States	6.6%	8.6%	10.0%	9.0%	7.6%	7.7%	9.8%	9.3%	12.5%	7.7%	8.5%		
Worldwide	6.7%	8.7%	10.2%	10.9%	11.3%	10.5%	11.9%	9.0%	10.4%	8.1%	11.2%		
Mastercard Debit and Prepaid Programs													
Worldwide less United States	7.5%	15.0%	18.8%	20.6%	20.8%	20.1%	20.2%	18.3%	19.6%	11.8%	20.4%		
United States	0.8%	4.0%	8.3%	11.9%	11.2%	9.6%	10.6%	6.0%	7.6%	3.0%	10.8%		
Worldwide	5.1%	11.2%	15.3%	17.6%	17.5%	16.5%	17.1%	14.0%	15.6%	8.7%	17.2%		

Purchase Volume (\$ Billions)											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs											
	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	\$258	\$275	\$291	\$296	\$307	\$304	\$318	\$306	\$318	\$1,075	\$1,226
Canada	37	39	42	37	42	42	45	37	44	150	166
Europe	226	252	266	269	286	289	304	287	320	943	1,148
Latin America	57	61	67	65	64	62	71	68	71	240	262
Worldwide less United States	578	628	666	668	699	697	737	698	752	2,408	2,802
United States	348	347	366	359	384	385	408	392	427	1,385	1,536
Worldwide	926	975	1,032	1,028	1,083	1,082	1,145	1,090	1,179	3,793	4,338
Mastercard Credit and Charge Programs											
Worldwide less United States	435	466	489	488	505	495	520	492	520	1,797	2,008
United States	187	188	198	185	202	205	219	203	228	743	811
Worldwide	622	654	687	673	707	700	739	695	748	2,540	2,819
Mastercard Debit and Prepaid Programs											
Worldwide less United States	143	161	177	180	194	202	217	206	232	611	793
United States	161	160	168	175	182	180	189	188	199	642	726
Worldwide	303	321	345	355	376	382	407	395	431	1,253	1,519

Purchase Volume Local Growth											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs											
	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	6.6%	8.5%	10.2%	11.5%	14.7%	13.2%	13.5%	9.4%	9.3%	8.7%	13.3%
Canada	11.6%	9.2%	9.9%	9.7%	9.6%	10.4%	11.5%	5.7%	7.7%	10.8%	10.3%
Europe	1.9%	16.0%	17.6%	22.0%	23.2%	22.2%	22.9%	18.4%	20.6%	8.3%	22.6%
<i>Europe adjusted for Article 8</i>	<i>17%</i>	<i>18%</i>	<i>20%</i>							<i>18%</i>	
Latin America	18.6%	18.2%	20.7%	22.1%	22.0%	21.4%	21.6%	17.8%	20.2%	19.0%	21.8%
Worldwide less United States	6.1%	12.4%	14.0%	16.4%	18.4%	17.3%	17.8%	13.5%	14.7%	9.6%	17.5%
<i>WW less USA adjusted for Article 8</i>	<i>12%</i>	<i>13%</i>	<i>15%</i>							<i>13%</i>	
United States	3.8%	6.4%	10.0%	11.1%	10.5%	10.7%	11.4%	9.0%	11.1%	5.7%	10.9%
Worldwide	5.2%	10.2%	12.6%	14.5%	15.5%	14.9%	15.5%	11.9%	13.4%	8.1%	15.1%
<i>Worldwide adjusted for Article 8</i>	<i>9%</i>	<i>11%</i>	<i>13%</i>							<i>10%</i>	
Mastercard Credit and Charge Programs											
Worldwide less United States	7.1%	9.1%	11.1%	12.7%	13.9%	12.6%	13.5%	9.3%	10.0%	8.8%	13.2%
United States	6.1%	7.9%	10.0%	8.8%	8.2%	9.0%	10.4%	10.0%	12.6%	7.3%	9.1%
Worldwide	6.8%	8.8%	10.8%	11.6%	12.2%	11.5%	12.5%	9.5%	10.8%	8.4%	12.0%
Mastercard Debit and Prepaid Programs											
Worldwide less United States	2.9%	23.0%	23.0%	27.8%	32.0%	30.7%	29.7%	25.0%	27.1%	12.0%	30.1%
United States	1.3%	4.7%	9.9%	13.5%	13.2%	12.7%	12.7%	8.0%	9.4%	3.9%	13.0%
Worldwide	2.0%	13.2%	16.2%	20.4%	22.2%	21.5%	21.2%	16.2%	18.3%	7.7%	21.3%

Purchase Transactions (Millions)											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	4,301	4,553	4,798	4,756	5,215	5,463	5,852	5,624	6,217	17,691	21,286
Canada	571	582	599	554	635	651	698	611	710	2,254	2,538
Europe	5,607	6,021	6,461	6,461	7,328	7,780	8,414	8,306	9,588	23,082	29,983
Latin America	1,819	1,929	2,087	2,062	2,186	2,300	2,530	2,473	2,721	7,637	9,077
Worldwide less United States	12,299	13,084	13,944	13,833	15,364	16,193	17,494	17,013	19,237	50,663	62,884
United States	6,254	6,315	6,510	6,359	6,866	6,931	7,243	6,892	7,558	24,861	27,399
Worldwide	18,553	19,400	20,455	20,192	22,230	23,124	24,737	23,905	26,795	75,524	90,283
Mastercard Credit and Charge Programs											
Worldwide less United States	6,995	7,307	7,639	7,444	8,090	8,426	9,012	8,607	9,556	28,482	32,972
United States	2,095	2,136	2,220	2,020	2,248	2,321	2,485	2,250	2,559	8,336	9,073
Worldwide	9,090	9,443	9,860	9,464	10,338	10,747	11,496	10,857	12,115	36,818	42,045
Mastercard Debit and Prepaid Programs											
Worldwide less United States	5,304	5,778	6,305	6,389	7,274	7,767	8,482	8,406	9,681	22,181	29,912
United States	4,159	4,179	4,290	4,340	4,618	4,610	4,758	4,642	5,000	16,525	18,325
Worldwide	9,463	9,956	10,595	10,728	11,892	12,377	13,240	13,048	14,680	38,705	48,238

Purchase Transactions Growth											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	22.0%	22.2%	16.7%	17.8%	21.2%	20.0%	22.0%	18.2%	19.2%	21.3%	20.3%
Canada	11.8%	10.5%	10.3%	10.5%	11.1%	11.8%	16.6%	10.2%	11.8%	11.2%	12.6%
Europe	8.8%	23.7%	25.9%	29.4%	30.7%	29.2%	30.2%	28.6%	30.8%	15.3%	29.9%
<i>Europe adjusted for Article 8</i>	24%	26%	28%							25%	
Latin America	16.4%	17.7%	19.8%	14.4%	20.2%	19.2%	21.2%	20.0%	24.5%	18.8%	18.9%
Worldwide less United States	14.4%	21.6%	21.0%	22.0%	24.9%	23.8%	25.5%	23.0%	25.2%	17.7%	24.1%
<i>WW less USA adjusted for Article 8</i>	21%	23%	22%							22%	
United States	1.4%	4.3%	8.4%	10.0%	9.8%	9.8%	11.2%	8.4%	10.1%	3.6%	10.2%
Worldwide	9.6%	15.4%	16.7%	18.0%	19.8%	19.2%	20.9%	18.4%	20.5%	12.6%	19.5%
<i>Worldwide adjusted for Article 8</i>	14%	16%	17%							15%	
Mastercard Credit and Charge Programs											
Worldwide less United States	12.5%	13.8%	13.7%	13.8%	15.6%	15.3%	18.0%	15.6%	18.1%	13.3%	15.8%
United States	3.9%	5.9%	7.5%	7.1%	7.3%	8.6%	11.9%	11.4%	13.8%	5.0%	8.8%
Worldwide	10.4%	11.9%	12.3%	12.3%	13.7%	13.8%	16.6%	14.7%	17.2%	11.3%	14.2%
Mastercard Debit and Prepaid Programs											
Worldwide less United States	16.9%	33.2%	31.1%	33.2%	37.2%	34.4%	34.5%	31.6%	33.1%	23.9%	34.9%
United States	0.2%	3.5%	8.9%	11.4%	11.0%	10.3%	10.9%	7.0%	8.3%	2.9%	10.9%
Worldwide	8.9%	18.9%	21.1%	23.4%	25.7%	24.3%	25.0%	21.6%	23.4%	13.9%	24.6%

Cash Volume (\$ Billions)											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	\$130	\$132	\$140	\$143	\$146	\$142	\$151	\$153	\$160	\$521	\$583
Canada	2	2	2	2	2	2	2	2	2	7	7
Europe	131	143	147	138	149	149	155	142	159	533	591
Latin America	35	36	39	37	37	37	40	37	39	142	150
Worldwide less United States	297	313	328	320	333	330	348	334	360	1,202	1,331
United States	57	59	56	60	58	57	57	59	59	228	233
Worldwide	353	372	384	380	391	388	405	393	419	1,430	1,564
Mastercard Credit and Charge Programs											
Worldwide less United States	39	41	41	40	40	39	40	38	39	159	159
United States	9	10	9	9	9	8	9	9	9	37	35
Worldwide	48	52	50	49	49	48	49	47	49	196	195
Mastercard Debit and Prepaid Programs											
Worldwide less United States	257	272	287	280	293	291	307	296	321	1,043	1,172
United States	48	49	47	50	50	49	49	50	50	191	198
Worldwide	305	321	334	331	343	340	356	346	371	1,234	1,369

Cash Volume Local Growth											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	7.7%	7.4%	16.7%	16.4%	12.6%	12.4%	13.1%	12.2%	13.4%	9.4%	13.6%
Canada	-13.0%	-2.0%	2.2%	4.5%	-1.0%	9.3%	13.8%	8.6%	6.9%	-4.1%	6.6%
Europe	11.0%	12.6%	13.3%	13.0%	13.2%	12.4%	14.2%	15.5%	14.7%	11.9%	13.2%
Latin America	9.8%	9.0%	9.8%	8.9%	9.6%	8.3%	9.3%	6.4%	9.0%	9.9%	9.0%
Worldwide less United States	9.2%	9.8%	14.2%	14.0%	12.5%	11.9%	13.1%	12.8%	13.4%	10.5%	12.9%
United States	1.5%	4.8%	4.0%	7.4%	2.9%	-3.2%	2.2%	-1.7%	1.9%	2.5%	2.2%
Worldwide	7.9%	9.0%	12.6%	12.9%	10.9%	9.4%	11.4%	10.4%	11.6%	9.1%	11.1%
Mastercard Credit and Charge Programs											
Worldwide less United States	3.2%	4.3%	1.3%	0.1%	0.4%	0.4%	4.8%	4.2%	4.5%	2.8%	1.4%
United States	17.5%	23.4%	9.1%	12.4%	-4.4%	-16.9%	-3.3%	-5.2%	8.1%	16.5%	-3.7%
Worldwide	5.6%	7.6%	2.7%	2.2%	-0.5%	-3.1%	3.3%	2.2%	5.1%	5.1%	0.4%
Mastercard Debit and Prepaid Programs											
Worldwide less United States	10.2%	10.7%	16.4%	16.3%	14.3%	13.6%	14.3%	14.1%	14.6%	11.7%	14.6%
United States	-1.0%	1.6%	3.1%	6.5%	4.3%	-0.3%	3.3%	-1.0%	0.8%	0.1%	3.4%
Worldwide	8.3%	9.2%	14.3%	14.7%	12.8%	11.4%	12.7%	11.6%	12.5%	9.8%	12.8%

Cash Transactions (Millions)											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	1,363	1,374	1,468	1,470	1,533	1,573	1,674	1,651	1,705	5,481	6,249
Canada	6	6	5	6	6	6	6	6	6	22	24
Europe	958	977	1,001	937	1,054	1,067	1,101	1,045	1,171	3,797	4,159
Latin America	259	261	279	264	272	273	298	278	298	1,054	1,106
Worldwide less United States	2,586	2,618	2,753	2,677	2,864	2,919	3,078	2,980	3,178	10,354	11,539
United States	338	346	326	328	340	337	328	322	337	1,329	1,333
Worldwide	2,924	2,964	3,079	3,005	3,204	3,256	3,406	3,302	3,515	11,684	12,872
Mastercard Credit and Charge Programs											
Worldwide less United States	186	185	183	170	180	182	187	173	184	729	718
United States	9	9	9	8	9	9	9	8	9	35	34
Worldwide	195	195	192	178	189	191	195	181	193	765	753
Mastercard Debit and Prepaid Programs											
Worldwide less United States	2,400	2,433	2,570	2,507	2,684	2,737	2,892	2,808	2,994	9,625	10,820
United States	329	336	317	320	331	329	319	314	328	1,294	1,299
Worldwide	2,729	2,769	2,887	2,827	3,015	3,066	3,211	3,122	3,322	10,919	12,119

Cash Transactions Growth											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	8.5%	5.9%	13.5%	15.2%	12.4%	14.4%	14.0%	12.3%	11.2%	8.5%	14.0%
Canada	-3.0%	-0.4%	0.0%	2.9%	14.7%	8.8%	15.2%	-3.5%	-11.2%	-0.2%	10.4%
Europe	5.3%	6.6%	8.2%	8.8%	10.0%	9.3%	9.9%	11.5%	11.1%	6.6%	9.5%
Latin America	3.3%	3.6%	5.8%	4.0%	4.7%	4.4%	6.7%	5.4%	9.5%	4.6%	5.0%
Worldwide less United States	6.7%	5.9%	10.7%	11.7%	10.8%	11.5%	11.8%	11.3%	11.0%	7.4%	11.4%
United States	-3.3%	-1.3%	0.5%	2.4%	0.6%	-2.4%	0.8%	-1.7%	-1.0%	-2.4%	0.3%
Worldwide	5.5%	5.0%	9.5%	10.6%	9.6%	9.9%	10.6%	9.9%	9.7%	6.2%	10.2%
Mastercard Credit and Charge Programs											
Worldwide less United States	-1.1%	-0.6%	-3.3%	-2.9%	-3.2%	-1.8%	1.9%	1.7%	2.2%	-1.5%	-1.5%
United States	-5.2%	-1.4%	-2.9%	0.2%	-4.1%	-6.8%	0.4%	-1.4%	4.7%	-3.5%	-2.7%
Worldwide	-1.3%	-0.7%	-3.3%	-2.7%	-3.2%	-2.0%	1.9%	1.6%	2.4%	-1.6%	-1.5%
Mastercard Debit and Prepaid Programs											
Worldwide less United States	7.4%	6.5%	11.9%	12.8%	11.8%	12.5%	12.5%	12.0%	11.6%	8.1%	12.4%
United States	-3.2%	-1.3%	0.6%	2.5%	0.7%	-2.3%	0.8%	-1.7%	-1.1%	-2.4%	0.4%
Worldwide	6.0%	5.5%	10.5%	11.6%	10.5%	10.7%	11.2%	10.4%	10.2%	6.7%	11.0%

Cards (Millions)											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs											
	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	651	679	696	713	732	758	795	814	824	696	795
Canada	49	50	52	56	58	59	61	61	62	52	61
Europe	449	465	475	485	499	512	529	544	563	475	529
Latin America	168	172	176	168	172	176	182	187	192	176	182
Worldwide less United States	1,317	1,366	1,400	1,423	1,461	1,505	1,567	1,606	1,640	1,400	1,567
United States	396	399	410	415	419	429	437	448	456	410	437
Worldwide	1,713	1,765	1,810	1,838	1,880	1,934	2,004	2,054	2,096	1,810	2,004
Mastercard Credit and Charge Programs											
Worldwide less United States	576	590	600	603	615	628	642	654	668	600	642
United States	205	207	211	211	211	218	227	230	235	211	227
Worldwide	781	797	811	814	826	846	869	885	903	811	869
Mastercard Debit and Prepaid Programs											
Worldwide less United States	741	776	799	820	846	877	925	952	972	799	925
United States	192	192	199	205	208	211	210	217	221	199	210
Worldwide	933	968	998	1,025	1,054	1,088	1,135	1,169	1,194	998	1,135

Cards Growth											
All Mastercard Credit,											
Charge, Debit and Prepaid Programs											
	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	FY 2017	FY 2018
APMEA	12.5%	14.7%	13.5%	13.1%	12.5%	11.6%	14.1%	14.1%	12.5%	13.5%	14.1%
Canada	9.8%	9.5%	8.9%	14.7%	17.5%	17.3%	16.0%	10.1%	6.9%	8.9%	16.0%
Europe	8.5%	10.4%	10.3%	10.5%	11.3%	10.1%	11.4%	12.0%	12.7%	10.3%	11.4%
Latin America	3.7%	4.9%	6.9%	0.6%	2.1%	2.5%	3.5%	11.0%	11.6%	6.9%	3.5%
Worldwide less United States	9.8%	11.7%	11.4%	10.6%	10.9%	10.2%	11.9%	12.9%	12.2%	11.4%	11.9%
United States	3.5%	4.3%	4.9%	6.2%	5.7%	7.5%	6.6%	7.8%	9.0%	4.9%	6.6%
Worldwide	8.3%	9.9%	9.8%	9.6%	9.7%	9.6%	10.7%	11.7%	11.5%	9.8%	10.7%
Mastercard Credit and Charge Programs											
Worldwide less United States	2.4%	5.7%	6.3%	6.0%	6.9%	6.4%	6.9%	8.5%	8.5%	6.3%	6.9%
United States	5.3%	5.4%	5.4%	4.2%	3.0%	5.5%	7.6%	9.4%	11.5%	5.4%	7.6%
Worldwide	3.1%	5.6%	6.1%	5.6%	5.9%	6.2%	7.1%	8.7%	9.3%	6.1%	7.1%
Mastercard Debit and Prepaid Programs											
Worldwide less United States	16.4%	16.8%	15.5%	14.3%	14.1%	13.1%	15.7%	16.1%	15.0%	15.5%	15.7%
United States	1.7%	3.1%	4.4%	8.3%	8.5%	9.7%	5.5%	6.1%	6.5%	4.4%	5.5%
Worldwide	13.0%	13.8%	13.1%	13.0%	13.0%	12.4%	13.7%	14.1%	13.3%	13.1%	13.7%

Note that the figures in the preceding tables may not sum due to rounding; growth represents change from the comparable year-ago period.

Footnote

The tables set forth the gross dollar volume (“GDV”), purchase volume, cash volume and the number of purchase transactions, cash transactions, and cards on a regional and global basis for Mastercard™-branded cards. Growth rates over prior periods are provided for volume-based data.

Debit transactions on Maestro® and Cirrus®-branded cards and transactions involving brands other than Mastercard are not included in the preceding tables.

For purposes of the table: GDV represents purchase volume plus cash volume and includes the impact of balance transfers and convenience checks; “purchase volume” means the aggregate dollar amount of purchases made with Mastercard-branded cards for the relevant period; and “cash volume” means the aggregate dollar amount of cash disbursements obtained with Mastercard-branded cards for the relevant period. The number of cards includes virtual cards, which are Mastercard-branded payment accounts that do not generally have physical cards associated with them.

The Mastercard payment product is comprised of credit, charge, debit and prepaid programs, and data relating to each type of program is included in the tables. The tables include information with respect to transactions involving Mastercard-branded cards that are not switched by Mastercard and transactions for which Mastercard does not earn significant revenues.

Information denominated in U.S. dollars is calculated by applying an established U.S. dollar/local currency exchange rate for each local currency in which Mastercard volumes are reported. These exchange rates are calculated on a quarterly basis using the average exchange rate for each quarter. Mastercard reports period-over-period rates of change in purchase volume and cash volume on the basis of local currency information, in order to eliminate the impact of changes in the value of foreign currencies against the U.S. dollar in calculating such rates of change.

The data set forth in the GDV, purchase volume, purchase transactions, cash volume and cash transactions columns is provided by Mastercard customers and is subject to verification by Mastercard and partial cross-checking against information provided by Mastercard’s transaction switching systems. The data set forth in the cards columns is provided by Mastercard customers and is subject to certain limited verification by Mastercard. A portion of the data set forth in the cards columns reflects the impact of routine portfolio changes among customers and other practices that may lead to over counting of the underlying data in certain circumstances. All data is subject to revision and amendment by Mastercard or Mastercard’s customers.

Effective Q1’18, our operational metrics reflect the impact of the Venezuela deconsolidation. Prior to Q1’18 all metrics include Venezuela. We are providing additional information regarding our Switched Transactions and Card growth rates. The adjusted growth rates eliminate Venezuelan Switched Transactions and Card counts from prior periods. In addition, we are providing further adjusted growth rates for switched transactions and adjusted rates for cross border volume to normalize for the effects of differing switching days between periods. This information is being provided so that you can better understand the underlying growth rates of our operating metrics.

Article 8 of the EU Interchange Fee Regulation related to card payments that became effective June 9, 2016 states that a network can no longer charge fees on domestic EEA payment transactions that do not use its payment brand. Prior to that, Mastercard collected a de minimis assessment fee in a few countries, particularly France, on transactions with Mastercard co-badged cards if the brands of domestic networks (as opposed to Mastercard) were used. As a result, the non-Mastercard co-badged volume is no longer being included.

To aid in understanding the underlying trends in the business, the table above reflects adjusted growth rates for the impact of Article 8, by eliminating the related co-badged volumes where relevant.

2. Switched Transactions

The table below sets forth the total number of transactions switched by Mastercard and growth from the comparable year-ago period.

Period	Switched	Growth	Growth
	Trans. (Mil.)	Excluding Venezuela ⁽¹⁾	Excluding Venezuela and Equalizing Switching Days ⁽¹⁾⁽²⁾
2019Q2	21,429	18%	18%
2019Q1	19,205	15%	17%
2018Q4	20,124	19%	17%
2018Q3	18,825	16%	18%
2018Q2	18,161	17%	17%
2018Q1	16,681	17%	16%
2017Q4	17,739	15%	17%
2017Q3	16,851	15%	15%
2017Q2	16,014	16%	16%
FY 2018	73,791	17%	17%
FY 2017	65,304	15%	16%

3. Cross Border Volume

The table below sets forth the Cross Border Volume Growth from the comparable year-ago period, on a local currency basis and U.S. dollar-converted basis, for all Mastercard-branded programs.

Period	Growth	Growth
	(Local) ⁽²⁾	(USD) ⁽²⁾
2019Q2	16%	10%
2019Q1	13%	6%
2018Q4	17%	12%
2018Q3	18%	15%
2018Q2	19%	24%
2018Q1	20%	30%
2017Q4	18%	24%
2017Q3	15%	17%
2017Q2	14%	10%
FY 2018	18%	20%
FY 2017	15%	15%

Note:

- (1) Growth rates eliminate Venezuela transactions from current and past periods
- (2) Growth rates normalized to eliminate the effects of differing switching days between periods

4. Cards

The tables below set forth the number of Mastercard, Maestro and Total Cards with growth rates from the comparable year-ago period.

Mastercard Cards				Maestro Cards				Total WW Mastercard & Maestro Cards			
Period	Cards (Mil.)	Actual Growth	Growth Adj for Ven	Period	Cards (Mil.)	Actual Growth	Growth Adj for Ven	Period	Cards (Mil.)	Actual Growth	Growth Adj for Ven
2019Q2	2,096	11.5%	12%	2019Q2	454	-12.7%	-13%	2019Q2	2,550	6.3%	6%
2019Q1	2,054	11.7%	12%	2019Q1	467	-11.7%	-12%	2019Q1	2,521	6.5%	6%
2018Q4	2,004	10.7%	11%	2018Q4	490	-17.6%	-11%	2018Q4	2,494	3.7%	6%
2018Q3	1,934	9.6%	10%	2018Q3	509	-15.4%	-9%	2018Q3	2,443	3.2%	5%
2018Q2	1,880	9.7%	10%	2018Q2	520	-14.7%	-9%	2018Q2	2,400	3.3%	5%
2018Q1	1,838	9.6%	10%	2018Q1	529	-16.1%	-11%	2018Q1	2,367	2.6%	5%
2017Q4	1,810	9.8%	10%	2017Q4	595	-7.6%	-9%	2017Q4	2,405	4.9%	5%
2017Q3	1,765	9.9%	10%	2017Q3	602	-7.6%	-9%	2017Q3	2,367	4.9%	5%
2017Q2	1,713	8.3%	8%	2017Q2	610	-7.7%	-9%	2017Q2	2,323	3.6%	3%