



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, 2017, as well as the prior eight quarterly reporting periods and the years ended December 31, 2016 and 2015 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 and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	\$344	\$350	\$363	\$349	\$371	\$381	\$379	\$370	\$391	\$1,387	\$1,480
Canada	34	33	34	29	36	36	38	34	39	131	139
Europe	321	334	343	319	352	336	336	311	356	1,285	1,344
Latin America	80	77	83	74	79	83	90	86	93	320	326
Worldwide less United States	779	794	823	770	839	836	842	801	878	3,123	3,289
United States	364	366	378	372	391	383	387	379	404	1,446	1,533
Worldwide	1,143	1,160	1,201	1,143	1,230	1,220	1,229	1,181	1,282	4,570	4,822
Mastercard Credit and Charge Programs											
Worldwide less United States	446	447	456	421	458	465	465	445	474	1,770	1,809
United States	172	175	181	169	184	182	189	179	196	681	724
Worldwide	618	623	637	590	642	647	654	623	670	2,451	2,533
Mastercard Debit Programs											
Worldwide less United States	333	347	367	349	382	372	377	357	404	1,353	1,480
United States	192	190	197	203	207	201	198	201	208	766	809
Worldwide	525	537	564	552	588	572	575	558	612	2,119	2,288

GDV Local Growth											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	15.1%	14.0%	13.7%	12.9%	12.8%	10.0%	7.1%	7.6%	7.5%	14.5%	10.6%
Canada	17.3%	17.8%	13.8%	8.6%	10.9%	9.3%	9.4%	12.3%	10.2%	16.0%	9.6%
Europe	16.8%	17.5%	15.8%	18.1%	13.9%	4.5%	3.1%	1.3%	4.9%	16.4%	9.5%
Europe adjusted for Article 8	20%	20%	18%	20%	19%	17%	16%	14%	15%	19%	18%
Latin America	15.4%	16.7%	15.1%	15.1%	15.4%	14.4%	14.5%	15.4%	15.4%	15.5%	14.9%
Worldwide less United States	16.0%	15.9%	14.7%	15.1%	13.4%	8.1%	6.3%	6.0%	7.3%	15.4%	10.5%
WW less USA adjusted for Article 8	17%	17%	15%	16%	15%	13%	11%	11%	11%	16%	14%
United States	7.2%	7.8%	8.5%	9.9%	7.4%	4.7%	2.4%	1.9%	3.5%	7.5%	6.0%
Worldwide	13.0%	13.2%	12.7%	13.3%	11.4%	7.0%	5.1%	4.6%	6.1%	12.8%	9.0%
Worldwide adjusted for Article 8	14%	14%	13%	14%	13%	10%	8%	8%	9%	13%	11%
Mastercard Credit and Charge Programs											
Worldwide less United States	11.3%	10.7%	9.5%	8.6%	7.8%	6.3%	5.7%	7.3%	6.8%	10.6%	7.1%
United States	6.6%	8.7%	9.3%	11.4%	6.8%	4.0%	4.2%	5.4%	6.7%	7.5%	6.4%
Worldwide	10.0%	10.2%	9.4%	9.4%	7.6%	5.6%	5.3%	6.8%	6.7%	9.7%	6.9%
Mastercard Debit Programs											
Worldwide less United States	22.8%	23.2%	22.0%	24.0%	20.9%	10.5%	7.1%	4.4%	8.0%	22.4%	15.1%
United States	7.6%	6.9%	7.8%	8.6%	7.8%	5.5%	0.7%	-1.1%	0.7%	7.5%	5.6%
Worldwide	16.8%	16.9%	16.6%	17.8%	15.9%	8.7%	4.8%	2.4%	5.4%	16.6%	11.5%

Purchase Volume (\$ Billions)													
All Mastercard Credit,													
Charge and Debit Programs										FY 2015		FY 2016	
	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17				
APMEA	\$232	\$237	\$245	\$232	\$247	\$256	\$260	\$252	\$262	\$934	\$995		
Canada	33	31	33	27	34	34	36	32	37	124	132		
Europe	220	228	234	218	234	213	214	200	226	882	878		
Latin America	47	45	47	43	47	51	56	55	57	187	196		
Worldwide less United States	532	541	559	520	562	555	565	539	583	2,128	2,202		
United States	310	312	324	316	335	327	333	324	348	1,233	1,311		
Worldwide	842	853	883	836	897	881	898	862	930	3,361	3,512		
Mastercard Credit and Charge Programs													
Worldwide less United States	406	407	417	385	419	426	426	406	434	1,611	1,656		
United States	165	168	174	162	176	174	180	170	187	652	693		
Worldwide	571	575	590	547	595	600	606	576	621	2,264	2,349		
Mastercard Debit Programs													
Worldwide less United States	126	134	142	135	143	129	139	132	149	516	546		
United States	145	144	151	154	158	152	153	154	160	581	618		
Worldwide	272	278	293	289	302	281	291	286	309	1,097	1,163		

Purchase Volume Local Growth													
All Mastercard Credit,													
Charge and Debit Programs										FY 2015		FY 2016	
	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17				
APMEA	15.7%	14.5%	13.4%	11.7%	10.9%	8.4%	7.7%	8.9%	7.5%	14.7%	9.6%		
Canada	19.2%	19.2%	14.5%	9.5%	10.7%	9.9%	10.1%	13.2%	11.6%	17.5%	10.1%		
Europe	14.9%	14.8%	13.5%	14.4%	8.7%	-2.6%	-2.7%	-3.0%	2.1%	14.1%	4.1%		
Europe adjusted for Article 8	19%	18%	16%	16%	15%	16%	16%	17%	17%	18%	16%		
Latin America	18.3%	18.0%	16.1%	15.2%	15.2%	15.6%	17.0%	18.1%	18.6%	17.9%	15.8%		
Worldwide less United States	15.8%	15.2%	13.7%	13.0%	10.3%	4.5%	4.4%	5.2%	6.6%	14.9%	7.8%		
WW less USA adjusted for Article 8	17%	16%	15%	14%	13%	12%	12%	13%	12%	16%	12%		
United States	7.1%	7.9%	8.8%	10.3%	7.9%	4.8%	2.6%	2.3%	3.8%	7.7%	6.3%		
Worldwide	12.4%	12.4%	11.9%	12.0%	9.4%	4.6%	3.7%	4.1%	5.5%	12.1%	7.3%		
Worldwide adjusted for Article 8	13%	13%	12%	12%	11%	9%	8%	9%	9%	13%	10%		
Mastercard Credit and Charge Programs													
Worldwide less United States	12.6%	11.7%	10.4%	9.3%	8.4%	6.9%	6.0%	7.5%	6.9%	11.8%	7.6%		
United States	6.4%	8.2%	8.8%	11.1%	6.9%	3.8%	3.8%	4.9%	6.2%	7.4%	6.2%		
Worldwide	10.8%	10.7%	10.0%	9.8%	8.0%	6.0%	5.3%	6.7%	6.7%	10.5%	7.2%		
Mastercard Debit Programs													
Worldwide less United States	27.2%	27.3%	24.5%	25.1%	16.4%	-2.6%	-0.1%	-1.3%	5.5%	25.8%	8.7%		
United States	7.9%	7.6%	8.8%	9.5%	9.1%	6.0%	1.2%	-0.5%	1.2%	8.1%	6.4%		
Worldwide	16.1%	16.3%	15.9%	16.3%	12.4%	1.9%	0.6%	-0.9%	3.2%	15.8%	7.5%		

Purchase Transactions (Millions)											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	2,908	3,124	3,339	3,266	3,565	3,768	4,150	4,076	4,415	12,052	14,748
Canada	453	468	487	446	511	526	542	501	571	1,801	2,024
Europe	4,390	4,637	4,935	4,856	5,155	4,867	5,134	5,007	5,596	17,902	20,012
Latin America	1,386	1,444	1,518	1,484	1,562	1,645	1,742	1,731	1,818	5,688	6,433
Worldwide less United States	9,137	9,673	10,279	10,051	10,792	10,805	11,568	11,316	12,399	37,443	43,217
United States	5,582	5,673	5,896	5,775	6,168	6,054	6,002	5,778	6,251	22,267	24,000
Worldwide	14,719	15,346	16,175	15,827	16,960	16,859	17,570	17,093	18,651	59,710	67,217
Mastercard Credit and Charge Programs											
Worldwide less United States	5,544	5,784	6,025	5,775	6,213	6,427	6,715	6,471	6,990	22,516	25,130
United States	1,836	1,909	1,993	1,843	2,017	2,019	2,066	1,886	2,095	7,346	7,944
Worldwide	7,379	7,693	8,018	7,618	8,230	8,445	8,781	8,357	9,086	29,862	33,075
Mastercard Debit Programs											
Worldwide less United States	3,593	3,889	4,255	4,276	4,579	4,378	4,853	4,844	5,409	14,927	18,086
United States	3,747	3,764	3,903	3,932	4,151	4,036	3,936	3,892	4,156	14,921	16,056
Worldwide	7,340	7,653	8,158	8,209	8,730	8,414	8,790	8,736	9,565	29,848	34,142

Purchase Transactions Growth											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	20.3%	20.6%	20.8%	21.8%	22.6%	20.6%	24.3%	24.8%	23.9%	20.7%	22.4%
Canada	19.1%	19.0%	16.0%	13.4%	12.7%	12.4%	11.3%	12.4%	11.8%	17.8%	12.4%
Europe	22.8%	23.2%	22.1%	23.3%	17.4%	4.9%	4.0%	3.1%	8.5%	22.4%	11.8%
Europe adjusted for Article 8	29%	28%	26%	26%	25%	24%	22%	22%	23%	28%	24%
Latin America	12.4%	12.3%	10.7%	10.8%	12.7%	13.9%	14.8%	16.7%	16.4%	12.0%	13.1%
Worldwide less United States	20.1%	20.4%	19.6%	20.3%	18.1%	11.7%	12.5%	12.6%	14.9%	19.9%	15.4%
WW less USA adjusted for Article 8	22%	22%	21%	21%	21%	20%	21%	22%	22%	22%	21%
United States	8.4%	9.8%	11.1%	12.9%	10.5%	6.7%	1.8%	0.0%	1.4%	9.4%	7.8%
Worldwide	15.4%	16.2%	16.3%	17.5%	15.2%	9.9%	8.6%	8.0%	10.0%	15.8%	12.6%
Worldwide adjusted for Article 8	16%	17%	17%	18%	17%	15%	14%	13%	14%	17%	16%
Mastercard Credit and Charge Programs											
Worldwide less United States	11.4%	11.9%	11.5%	11.9%	12.1%	11.1%	11.5%	12.0%	12.5%	11.7%	11.6%
United States	7.2%	10.6%	11.9%	14.6%	9.9%	5.7%	3.7%	2.3%	3.9%	9.2%	8.1%
Worldwide	10.3%	11.6%	11.6%	12.5%	11.5%	9.8%	9.5%	9.7%	10.4%	11.0%	10.8%
Mastercard Debit Programs											
Worldwide less United States	36.6%	35.7%	33.3%	34.0%	27.4%	12.6%	14.1%	13.3%	18.1%	35.0%	21.2%
United States	9.0%	9.3%	10.7%	12.1%	10.8%	7.2%	0.9%	-1.0%	0.1%	9.6%	7.6%
Worldwide	21.0%	21.3%	21.4%	22.6%	18.9%	9.9%	7.7%	6.4%	9.6%	20.9%	14.4%

Cash Volume (\$ Billions)											
All Mastercard Credit,											
Charge and Debit Programs											
	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	\$112	\$113	\$117	\$117	\$124	\$125	\$119	\$118	\$129	\$453	\$485
Canada	2	2	2	2	2	2	2	2	2	7	7
Europe	101	106	110	101	119	123	123	111	130	402	465
Latin America	33	32	36	31	32	32	34	32	35	133	130
Worldwide less United States	248	253	265	251	277	282	277	263	295	995	1,087
United States	54	54	53	56	56	57	54	56	57	213	222
Worldwide	301	307	318	307	333	338	331	319	352	1,209	1,309
Mastercard Credit and Charge Programs											
Worldwide less United States	40	40	39	36	39	39	39	38	40	159	153
United States	7	8	7	7	8	8	8	8	9	28	32
Worldwide	48	48	47	43	46	47	48	47	49	187	184
Mastercard Debit Programs											
Worldwide less United States	207	213	225	215	239	243	238	225	255	837	934
United States	46	46	46	49	48	48	46	47	48	185	191
Worldwide	254	260	271	263	287	291	284	272	303	1,022	1,125

Cash Volume Local Growth											
All Mastercard Credit,											
Charge and Debit Programs											
	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	14.1%	12.9%	14.3%	15.3%	16.6%	13.6%	6.0%	4.9%	7.4%	14.1%	12.8%
Canada	-8.2%	-2.5%	1.1%	-4.6%	13.8%	-0.4%	-3.5%	-2.6%	-13.0%	-5.2%	1.4%
Europe	21.3%	23.6%	21.1%	27.1%	25.6%	19.6%	15.3%	10.0%	10.3%	21.8%	21.4%
Latin America	11.5%	14.9%	13.8%	15.0%	15.7%	12.6%	10.8%	11.1%	10.4%	12.3%	13.4%
Worldwide less United States	16.3%	17.3%	16.9%	19.6%	20.2%	15.9%	10.4%	7.7%	8.9%	16.6%	16.3%
United States	7.6%	6.9%	6.6%	7.2%	4.2%	4.3%	1.1%	-0.5%	1.6%	6.2%	4.2%
Worldwide	14.7%	15.3%	15.0%	17.1%	17.2%	13.8%	8.8%	6.2%	7.6%	14.7%	14.1%
Mastercard Credit and Charge Programs											
Worldwide less United States	-0.5%	1.7%	0.2%	1.3%	2.1%	0.2%	3.1%	5.3%	5.2%	0.0%	1.7%
United States	13.5%	22.3%	20.7%	19.0%	5.8%	7.0%	13.2%	16.3%	18.4%	11.1%	10.9%
Worldwide	1.4%	4.5%	3.0%	3.9%	2.7%	1.4%	4.8%	7.2%	7.4%	1.6%	3.2%
Mastercard Debit Programs											
Worldwide less United States	20.3%	20.8%	20.4%	23.3%	23.7%	18.9%	11.8%	8.1%	9.5%	20.4%	19.1%
United States	6.8%	4.7%	4.7%	5.6%	3.9%	3.9%	-0.9%	-3.0%	-1.0%	5.5%	3.1%
Worldwide	17.6%	17.5%	17.4%	19.6%	19.9%	16.1%	9.5%	6.0%	7.7%	17.4%	16.1%

Cash Transactions (Millions)											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	1,074	1,136	1,200	1,206	1,253	1,301	1,289	1,250	1,329	4,434	5,049
Canada	6	6	6	5	6	6	5	6	6	22	22
Europe	766	803	842	812	910	923	925	851	948	3,090	3,569
Latin America	224	231	249	240	251	252	264	254	261	917	1,008
Worldwide less United States	2,070	2,175	2,297	2,263	2,419	2,482	2,483	2,360	2,544	8,464	9,648
United States	343	340	332	338	349	350	324	320	338	1,342	1,361
Worldwide	2,413	2,516	2,629	2,601	2,769	2,832	2,807	2,680	2,882	9,805	11,009
Mastercard Credit and Charge Programs											
Worldwide less United States	189	189	190	177	188	187	190	178	187	747	743
United States	9	9	9	9	9	10	9	8	9	34	37
Worldwide	198	198	199	185	198	197	199	186	196	781	780
Mastercard Debit Programs											
Worldwide less United States	1,880	1,986	2,107	2,086	2,231	2,295	2,293	2,183	2,357	7,717	8,905
United States	335	331	323	330	340	340	315	311	329	1,308	1,325
Worldwide	2,215	2,317	2,430	2,416	2,571	2,635	2,608	2,494	2,686	9,024	10,229

Cash Transactions Growth											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	15.2%	12.9%	15.7%	17.6%	16.7%	14.6%	7.4%	3.7%	6.1%	14.8%	13.9%
Canada	-3.5%	-1.7%	1.9%	2.8%	2.7%	-1.2%	-3.1%	2.7%	-3.0%	-1.9%	0.2%
Europe	14.5%	17.8%	17.4%	19.7%	18.7%	14.9%	9.8%	4.8%	4.2%	15.9%	15.5%
Latin America	9.2%	10.9%	10.5%	12.6%	12.0%	9.5%	5.9%	5.7%	4.0%	9.5%	9.8%
Worldwide less United States	14.2%	14.4%	15.7%	17.8%	16.9%	14.1%	8.1%	4.3%	5.2%	14.6%	14.0%
United States	4.7%	1.5%	2.2%	3.8%	1.7%	2.8%	-2.5%	-5.5%	-3.3%	3.3%	1.5%
Worldwide	12.7%	12.5%	13.8%	15.7%	14.7%	12.6%	6.8%	3.0%	4.1%	12.9%	12.3%
Mastercard Credit and Charge Programs											
Worldwide less United States	-10.0%	-6.5%	-4.2%	-1.4%	-0.6%	-0.8%	0.3%	0.6%	-0.5%	-7.6%	-0.6%
United States	25.2%	18.7%	17.1%	20.6%	10.3%	5.9%	0.9%	-4.7%	-5.1%	19.0%	8.8%
Worldwide	-8.9%	-5.6%	-3.4%	-0.5%	-0.1%	-0.5%	0.3%	0.3%	-0.7%	-6.7%	-0.2%
Mastercard Debit Programs											
Worldwide less United States	17.4%	16.9%	17.9%	19.7%	18.6%	15.5%	8.8%	4.6%	5.6%	17.3%	15.4%
United States	4.2%	1.1%	1.8%	3.4%	1.5%	2.7%	-2.6%	-5.5%	-3.2%	2.9%	1.3%
Worldwide	15.2%	14.4%	15.4%	17.2%	16.0%	13.7%	7.3%	3.2%	4.5%	15.0%	13.4%

Cards (Millions)											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	510	531	546	563	579	598	619	640	661	546	619
Canada	45	46	48	48	45	46	48	48	49	48	48
Europe	377	386	396	403	414	422	433	443	454	396	433
Latin America	156	159	162	163	163	164	167	169	170	162	167
Worldwide less United States	1,089	1,122	1,151	1,177	1,201	1,230	1,267	1,301	1,335	1,151	1,267
United States	359	364	373	379	382	382	390	391	395	373	390
Worldwide	1,449	1,485	1,524	1,556	1,583	1,612	1,657	1,692	1,730	1,524	1,657
Mastercard Credit and Charge Programs											
Worldwide less United States	559	562	564	565	564	565	572	578	583	564	572
United States	185	186	190	191	194	196	200	201	204	190	200
Worldwide	744	748	755	756	758	761	772	779	787	755	772
Mastercard Debit Programs											
Worldwide less United States	530	560	587	612	637	665	694	723	751	587	694
United States	174	177	183	188	188	187	191	190	191	183	191
Worldwide	704	737	770	800	826	851	885	913	943	770	885

Cards Growth											
All Mastercard Credit,											
Charge and Debit Programs	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	FY 2015	FY 2016
APMEA	16.2%	15.6%	15.1%	14.9%	13.5%	12.6%	13.4%	13.8%	14.1%	15.1%	13.4%
Canada	10.5%	9.1%	8.8%	8.3%	-1.4%	-0.5%	0.8%	0.8%	10.5%	8.8%	0.8%
Europe	10.2%	7.8%	6.5%	8.1%	9.8%	9.4%	9.2%	9.9%	9.8%	6.5%	9.2%
Latin America	8.9%	8.3%	6.6%	7.8%	4.2%	3.1%	3.4%	3.4%	4.4%	6.6%	3.4%
Worldwide less United States	12.7%	11.5%	10.5%	11.2%	10.2%	9.7%	10.0%	10.5%	11.2%	10.5%	10.0%
United States	8.5%	7.0%	6.1%	7.1%	6.4%	5.2%	4.7%	3.1%	3.3%	6.1%	4.7%
Worldwide	11.6%	10.4%	9.4%	10.2%	9.3%	8.6%	8.7%	8.7%	9.3%	9.4%	8.7%
Mastercard Credit and Charge Programs											
Worldwide less United States	1.8%	1.4%	0.5%	1.8%	0.8%	0.6%	1.4%	2.3%	3.5%	0.5%	1.4%
United States	7.2%	5.3%	5.1%	5.3%	4.8%	5.0%	4.9%	5.1%	5.1%	5.1%	4.9%
Worldwide	3.1%	2.3%	1.6%	2.7%	1.8%	1.7%	2.3%	3.0%	3.9%	1.6%	2.3%
Mastercard Debit Programs											
Worldwide less United States	27.2%	24.0%	22.3%	21.6%	20.2%	18.7%	18.3%	18.1%	17.9%	22.3%	18.3%
United States	9.9%	8.7%	7.3%	8.9%	8.1%	5.3%	4.4%	1.0%	1.4%	7.3%	4.4%
Worldwide	22.4%	19.9%	18.3%	18.4%	17.2%	15.5%	15.0%	14.1%	14.2%	18.3%	15.0%

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 and debit programs, and data relating to each type of program is included in the tables. Debit programs include Mastercard-branded debit programs where the primary means of cardholder validation at the point of sale is for cardholders either to sign a sales receipt or enter a PIN. 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’s customers subsequent to the date of its release.

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 Trans. (Mil.)	Growth
2017Q2	16,014	17.0%
2017Q1 ⁽²⁾	14,700	16.7%
2016Q4	15,200	17.2%
2016Q3	14,452	17.7%
2016Q2	13,688	14.0%
2016Q1 ⁽¹⁾	12,601	14.2%
2015Q4	12,971	12.2%
2015Q3	12,279	12.0%
2015Q2	12,012	13.2%
FY 2016	55,941	15.8%
FY 2015	48,297	12.4%

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 (Local)	Growth (USD)
2017Q2	13.6%	10.1%
2017Q1 ⁽²⁾	12.8%	9.6%
2016Q4	12.9%	7.9%
2016Q3	12.4%	9.0%
2016Q2	10.3%	7.1%
2016Q1 ⁽¹⁾	11.9%	6.3%
2015Q4	12.3%	0.9%
2015Q3	15.7%	0.1%
2015Q2	16.6%	1.2%
FY 2016	11.9%	7.6%
FY 2015	15.7%	1.3%

Note:

- (1) There was one more day in this period vs. the same period the previous year
- (2) There was one less day in this period vs. the same period the previous year

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.)	Growth	Period	Cards (Mil.)	Growth	Period	Cards (Mil.)	Growth
2017Q2	1,730	9.3%	2017Q2	652	-2.4%	2017Q2	2,382	5.8%
2017Q1	1,692	8.7%	2017Q1	653	-2.4%	2017Q1	2,345	5.4%
2016Q4	1,657	8.7%	2016Q4	663	-2.0%	2016Q4	2,320	5.4%
2016Q3	1,612	8.6%	2016Q3	664	-2.6%	2016Q3	2,276	5.0%
2016Q2	1,583	9.3%	2016Q2	668	-2.0%	2016Q2	2,251	5.7%
2016Q1	1,556	10.2%	2016Q1	670	-1.6%	2016Q1	2,226	6.4%
2015Q4	1,524	9.4%	2015Q4	677	-1.1%	2015Q4	2,201	6.0%
2015Q3	1,485	10.4%	2015Q3	682	-2.0%	2015Q3	2,167	6.1%
2015Q2	1,449	11.6%	2015Q2	681	-2.1%	2015Q2	2,130	6.8%