2020 Effective Tax Rate by Adjusted Gross Income Percentile

[All figures are estimates based on samples--money amounts are in thousands of dollars]

		Amo	ount	
Size of adjusted	Number of	Tatal Adimeted	Tatalitav	Average
gross income	returns	Total Adjusted Gross Income	Total tax after credits	tax rate
		Gross modific	and ordino	
All returns, total	157,494,242	\$12,533,102	\$1,708,081	13.63%
Top 0.001 percent	1,575	\$298,180	\$70,771	23.73%
Top 0.01 percent	15,749	\$693,109	\$174,466	25.17%
Top 0.1 percent	157,494	\$1,419,047	\$376,728	26.55%
Top 1 percent	1,574,942	\$2,780,754	\$722,732	25.99%
Top 2 percent	3,149,885	\$3,474,592	\$860,441	24.76%
Top 3 percent	4,724,827	\$3,985,645	\$948,113	23.79%
Top 4 percent	6,299,770	\$4,407,989	\$1,016,226	23.05%
Top 5 percent	7,874,712	\$4,775,995	\$1,071,681	22.44%
Top 10 percent	15,749,424	\$6,198,022	\$1,258,335	20.30%
Top 20 percent	31,498,848	\$8,130,111	\$1,450,659	17.84%
Top 25 percent	39,373,561	\$8,862,578	\$1,511,786	17.06%
Top 30 percent	47,248,273	\$9,488,648	\$1,560,458	16.45%
Top 40 percent	62,997,697	\$10,494,409	\$1,628,375	15.52%
Top 50 percent	78,747,121	\$11,257,092	\$1,668,410	14.82%

^[1] Effective tax rate defined as tax after credits as a proportion of adjusted gross income by AGI level and all higher AGI levels.

Note: Detail may not add to totals because of rounding. Totals in this year exclude dependent returns.

Source: SOI Tax Stats - Individual Statistical Tables by Tax Rate and Income Percentile. Table: "Number of Returns, Shares of AGI and Total Income Tax, AGI Floor on Percentiles in Current and Constant Dollars, and Average Tax Rates. Classified by: Selected Descending Cumulative Percentiles of Returns Based on Income Size Using the Definition of AGI for Each Year." November 2022.

https://www.irs.gov/statistics/soi-tax-stats-individual-statistical-tables-by-tax-rate-and-income-percentile

5;0Mxo0

5348 Hiihfwlyh Wd{ Udwh e| Dgmxvwhg Jurvv Lqfrph ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq

		Dpr	xdm	
Vl}h ri dgmx jurvv lqfr	Qxpehu r uhwxu	Wrwdo Dgmxv Jurvv Lqfrj	Wrwdo v diwhu fuh	Dyhudjl wd{ ud
Doo uhwxuqv/	474/537/9!	'43/475/953/3	' 4/787/658/3	47167
Wrs 31334 shuf	4/74	'547/97:/3°	'84/6:8/3	561<6
Wrs 3134 shuf	47/45	7<8/534/3	45:/569/3	5819<
Wrs 314 shuf	474/53	4/366/7:6/3	15;6/8::/3	5:177
Wrs 4 shuft	4/745/37	15/3<7/<39/3	189:/9<:/3	5:143
Wrs 5 shuft	5/;57/3<	′5/969/<;:/3	19;;/46:/3	59143
Wrs 6 shuft	7/569/46	′6/367/;; 3</td <td>':96/:97/3</td> <td>5814:</td>	':96/:97/3	5814:
Wrs 7 shuft	8/97;/4;	′6/699/<53/3	';53/668/3	57169
Wrs 8 shuft	:/393/56	'6/98;/889/3	';99/77:/3	5619;
Wrs 43 shuft	47/453/79	77/;36/65:/3	4/359/934/3	5416:
Wrs 53 shuft	5;/573/ </td <td>19/6;<!--3<7/3</td--><td>4/534/834/3</td><td>4;1;4</td></td>	19/6; 3<7/3</td <td>4/534/834/3</td> <td>4;1;4</td>	4/534/834/3	4;1;4
Wrs 58 shufl	68/634/48	19/<<:/:6:/3	'4/58 9<;/3</td <td>4;133</td>	4;133
Wrs 63 shuft	75/694/6	':/84 9;6/3</td <td>'4/639/5:4/3</td> <td>4:16:</td>	'4/639/5:4/3	4:16:
Wrs 73 shufl	89/7;4/;	';/693/;59/3	'4/6:6/3:6/3	49175
Wrs 83 shufl	:3/935/64	';/<<;/3:8/3	'4/746/533/3	481:4

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrq ri dgmxvwhg jurvv lqfr; ohyhov1

Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqj1 Wrwdov lq wklv |hdu l Vrxufh= VRL Wd{ Vwdwv 0 Lqglylgxdo Vwdwlvwlfdo Wdeohv e| Wd{ Udw kwwsv=22zzz1luv1jry2vwdwlvwlfv2vrl0wd{0vwdwv0lqqlylgxdo0vwdwlvwlfdo0wdeohv0e|(

5;0Mxo0

5348 Hiihfwlyh Wd{ Udwh e| Dgmxvwhg Jurvv Lqfrph ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq

		Dpr	xdm	
Vl}h ri dgmx jurvv lqfr	Qxpehu r uhwxu	Wrwdo Dgmxv Jurvv Lqfr]	Wrwdo v diwhu fuh	Dyhudjl wd{ ud
Doo uhwxuqv/	457/9:6/3	':/698/9; 3</td <td>'<64/9<6/3</td> <td>45198</td>	'<64/9<6/3	45198
Wrs 31334 shuf	4/57	476/6:3/3	15:/4:4/3	4;1<8
Wrs 3134 shuf	45/79	'695/8;4/3°	':8/484/3	531:6
Wrs 314 shuf	457/9:	':;6/:95/3	4:9/485/3	5517;
Wrs 4 shuft	4/579/:6	'4/893/98 3</td <td>'694/597/3</td> <td>56148</td>	'694/597/3	56148
Wrs 5 shuft	5/7<6/79	'4/<65/388/3	76:/785/3	55197
Wrs 6 shuft	6/:73/4	15/535/687/3	77;8/375/3	55135
Wrs 7 shuft	7/<;9/ </td <td>15/759/7<5/3</td> <td>'853/7;6/3</td> <td>54178</td>	15/759/7<5/3	'853/7;6/3	54178
Wrs 8 shuft	9/566/98	′5/956/3::/3	'87 39;/3</td <td>531<6</td>	531<6
Wrs 43 shufl	45/79:/63	′6/733/8<9/3	197:/448/3	4<136
Wrs 53 shufl	57/<67/94	′7/839/4<:/3	':88/585/3	491:9
Wrs 58 shufl	64/49;/59	′7/<73/57 3</td <td>':<5/878/3</td> <td>49137</td>	':<5/878/3	49137
Wrs 63 shufl	6:/734/<4	′8/64:/<36/3	';56/7;;/3	4817<
Wrs 73 shufl	7 ;9</5!</td <td>18/<69/<77/3</td> <td>';9<!--5:5/3</td--><td>47197</td></td>	18/<69/<77/3	';9 5:5/3</td <td>47197</td>	47197
Wrs 83 shuft	95/669/8!	'9/745/;<:/3	';<;/595/3	47134

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrq ri dgmxvwhg jurvv lqfrrohyhovl

Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqj1 Wrwdov lq wklv |hdu } Vrxufh= VRL Wd{ Vwdwv 0 Lqglylgxdo Vwdwlvwlfdo Wdeohv e| Wd{ Udw: kwwsv=22zzz1luv1jry2vwdwlvwlfv2vrl0wd{0vwdwv0lqglylgxdo0vwdwlvwlfdo0wdeohv0e|(

4<<8 Hiihfwlyh Wd{ Udwh e| vl}h ri Dgmxvwhg Ju ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq

		Dpr	xdm		Hiihfwlyh
Vl}h ri dgmx	Qxpehu r			Wrs DJ1	wd{ uc
jurvv lqfr	uhwxuc	Wrwdo Dgmxv	Wrwdo v	shufhqwl	ri wrs D
		Jurvv Lqfr	diwhu fuh		shufhqwloh
Doo uhwxuqv/	44;/54;/6!	′7/4; 686/9</td <td>18;9/45;/7</td> <td>433133</td> <td>461<<(</td>	18;9/45;/7	433133	461<<(
Qr dgmxvwhg jurvv lc	<77/47	0′88/586/9	′4;<	433133	461<<(
'4 xqqhu '4/:	5/58 9;</td <td>'4/6<<!--;{</td--><td>43/;;</td><td><<153 (</td><td>461;4(</td></td>	'4/6< ;{</td <td>43/;;</td> <td><<153 (</td> <td>461;4(</td>	43/;;	<<153 (461;4(
'4/333 xqghu '5/	6/5;4/<4	7/<3:/89	199/54	<:15<	461;41
'5/333 xqghu '6/	6/577/48	';/3:6/ </td <td>′<3/6<</td> <td><7184 (</td> <td>461;61</td>	′<3/6<	<7184 (461;61
'6/333 xqghu '7 _/	6/435/45	43/;64/5	';6/74	<41::(461;8(
'7/333 xqghu '8/	5/:8;/56	'45/6<5/4!	'46;/:3	;<148(461;<
'8/333 xqghu '9,	5/;76/55	′48/94:/54	4;3/78	;91;41	461<5(
'9/333 xqghu ':/	5/;69/:5	14;/6;7/9	1585/37	;7174(461<: (
':/333 xqghu ';/	5/999/6<	'4 <<8/4</td <td>67;/48</td> <td>;5134(</td> <td>47136</td>	67;/48	;5134(47136
';/333 xqghu ' </td <td>5/<59/59</td> <td>'57/;8;/6!</td> <td>1947/:5</td> <td>:<1:8(</td> <td>4713<(</td>	5/<59/59	'57/;8;/6!	1947/:5	:<1:8(4713<(
' 333 xqghu '43,</td <td>5/:3<!--:;</td--><td>'58/:5;/3i</td><td>′:33/6:</td><td>::15;(</td><td>47149(</td></td>	5/:3 :;</td <td>'58/:5;/3i</td> <td>′:33/6:</td> <td>::15;(</td> <td>47149(</td>	'58/:5;/3i	′:33/6:	::15;(47149(
'43/333 xqghu '44,	5/995/94	′5:/<76/4	';<9/57	:71<;	47156(
'44/333 xqghu '45,	5/;75/75	′65/9;6/34	′4/4:;/4‹	:51:61	47163 (
'45/333 xqghu '46,	5/:45/;8	′66/;<3/7	′4/773/:	:31661	4716< (
'46/333 xqghu '47,	5/:3 8;</td <td>′69/8:9/3</td> <td>′4/84;/:</td> <td>9;1361</td> <td>4717:(</td>	′69/8:9/3	′4/84;/:	9;1361	4717:(
'47/333 xqghu '48,	5/967/94	′6;/557/ : :	'4/9<3/9:	981:7(4718:(
'48/333 xqghu '49,	5/7;7/36	'6;/789/ </td <td>'4/;94/:</td> <td>96184 (</td> <td>4719:(</td>	'4/;94/:	96184 (4719:(
'49/333 xqghu '4:,	5/685/98	′6;/;5;/;	'4/<5:/4	94174 (471::(
'4:/333 xqghu '4;,	5/483/79	′6:/93:/4	15/35 5</td <td>8<175(</td> <td>471;9(</td>	8<175(471;9(
'4;/333 xqghu '4<,	5/584/;	74/:39/3!	′5/64;/64	8:193(471<9(
'4 333 xqghu '53,</td <td>5/479/98</td> <td>74/;4<!--69</td--><td>′5/883/7′</td><td>881:3(</td><td>48139(</td></td>	5/479/98	74/;4 69</td <td>′5/883/7′</td> <td>881:3(</td> <td>48139(</td>	′5/883/7′	881:3(48139(
'53/333 xqghu '58,	<:3/3<</td <td>′556/733/5</td> <td>49/477/:</td> <td>861;;(</td> <td>48149(</td>	′556/733/5	49/477/:	861;;(48149(
'58/333 xqghu '63,	:/;7:/;5	1548/533/5	'4;/84 3</td <td>78178 (</td> <td>4819:(</td>	78178 (4819:(
'63/333 xqghu '73,	45/6;3/60	763/7<3/5	75/6<;/9	6;1;4(49146(
'73/333 xqghu '83,	3<;/:5</td <td>739/96;/8</td> <td>′76/953/3</td> <td>5;167(</td> <td>4:13:(</td>	739/96;/8	′76/953/3	5;167(4:13:(
'83/333 xqghu ':8,	46/9: 3!</td <td>';5;/67<!--5</td--><td>'433/4<<!--9</td--><td>53197(</td><td>4;145(</td></td></td>	';5;/67 5</td <td>'433/4<<!--9</td--><td>53197(</td><td>4;145(</td></td>	'433/4< 9</td <td>53197(</td> <td>4;145(</td>	53197(4;145(
':8/333 xqghu '433,	8/6:7/7;	78;/838/9	'9:/8<:/7	<13:(5414;(
'433/333 xqghu '533	7/3:7/;8	'865/363/7	'<9/;59/5·	7185(561:31

'533/333 xqghu '833	4/33:/46	′5<5/44:/8	':6/;97/9	413;(5;15:(
'833/333 xqghu '4/333	4:;/6:	453/67:/3	'69/334/ : !	3155(631::(
'4/333/333 ru p	;9/<<	'55:/8;5/<	':4/38 4</td <td>313:(</td> <td>64155(</td>	313:(64155(

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrq ri dgmxvwhg jurvv lqfrph e| Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqj1 Wrwdov lqfox Vrxufh= WSF fdofxodwlrqv dqg LUV/ 4<<8 Sxeolfdwlrq 4637/ Vwdwlvwl: kwwsv=22zzz1luv1jry2sxe2luv0vrl2

4<;8 Hiihfwlyh Wd{ Udwh e| vl}h ri Dgmxvwhg Jurvv Lqfrph 0 Dffrxqwlqj iru Fdslwdo Jdl ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq

			Dpr	xdm			Hiihfwly
Vl}h ri dgmx	Qxpehu r		Sruwlrq ri fd	DJL so:		Wrs DJ1	wd{ ud
jurvv lqfr	uhwxuc	Wrwdo Dgmxv	jdlqv h{fox	h{foxghg sruw	Wrwdo w	shufhqwl	ri wrs D
		Jurvv Lqfr]	iurp DJL	ri fdslwdo	diwhu fuh	_	shufhqwloh
Doo uhwxuqv/	434/993/5	15/638/<84/5	′< ;79/683</td <td>'4/967/:5<!--;</td--><td>′654/<4:/5</td><td>433133</td><td>47198</td></td>	'4/967/:5 ;</td <td>′654/<4:/5</td> <td>433133</td> <td>47198</td>	′654/<4:/5	433133	47198
Qr dgmxvwhg jurvv lc	4/367/;3	0'6;/36:/6	′9/63:/9′	0'64/:5 9</td <td>′4/4<</td> <td>433133</td> <td>47198</td>	′4/4<	433133	47198
'4 xqghu '4/:	5/58:/53	'4/5<9/6	187/75	4/683/;	С	<;1<;	47179 (
'4/333 xqghu '5,	6/64:/7	7/<:9/9!	43:/44	'8/3;6/:	' 68</td <td><91:91</td> <td>4717:</td>	<91:91	4717:
'5/333 xqghu '6,	6/786/<	';/937/9!	'4<5/;4	';/:<:/70	159/78	<6183	47183
'6/333 xqqhu '7,	6/655/:4	44/95;/4	'473/:<	'44/:9;/<	':7/54	<3143	47188
'7/333 xgghu '8,	6/695/:	'48/474/:	'5<5/56	'48/766/<	159:/6;	;91;61	47195
'8/333 xgqhu '9,	6/633/5	4;/45:/5	1577/45	4;/6:4/7	7<5/;:	;6185	471:3
'9/333 xgghu ':,	6/5:3/9	154/55 8</td <td>1567/;3</td> <td>154/797/7</td> <td>19;8/;6</td> <td>;315;</td> <td>471;3</td>	1567/;3	154/797/7	19;8/;6	;315;	471;3
':/333 xgghu ';,	6/534/98	′57/34;/<	15;8/39	157/637/3	′<63/54	::1391	471<3
';/333 xgghu '<,	6/795/9!	′5 78;/;</td <td>1643/<5</td> <td>′5<!--:9</;</td--><td>4/659/5</td><td>:61<4</td><td>48135</td></td>	1643/<5	′5 :9</;</td <td>4/659/5</td> <td>:61<4</td> <td>48135</td>	4/659/5	:61<4	48135
' 333 xqqhu '43,</td <td>6/589/54</td> <td>′63/;;<!--6</td--><td>1573/83</td><td>'64/45<!--;</td--><td>′4/967/:</td><td>:3184</td><td>48148</td></td></td>	6/589/54	′63/;; 6</td <td>1573/83</td> <td>'64/45<!--;</td--><td>′4/967/:</td><td>:3184</td><td>48148</td></td>	1573/83	'64/45 ;</td <td>′4/967/:</td> <td>:3184</td> <td>48148</td>	′4/967/:	:3184	48148
'43/333 xgghu '44	5/<:;/;	'64/569/3	1639/36	'64/875/3	15/454/5	9:163	4815<
'44/333 xqqhu '45	5/;97/:{	'65/<3:/;	1568/93	′66/476/7	15/757/8	9716:	48174
'45/333 xqghu '46	5/:4;/49	'66/<88/8	'5; 88</td <td>'67/578/4!</td> <td>15/:4:/5</td> <td>94188</td> <td>48186</td>	'67/578/4!	15/:4:/5	94188	48186
'46/333 xqghu '47	5/:39/83	69/865/7	1668/4<	'69/;9:/9!	′6/395/:	8;1;;	48198
'47/333 xqghu '48	5/9;3/59	'6;/;4 ;</td <td>'6;6/<9</td> <td>'6<!--536/;</td--><td>'6/587/5'</td><td>89155</td><td>481:;</td></td>	'6;6/<9	'6 536/;</td <td>'6/587/5'</td> <td>89155</td> <td>481:;</td>	'6/587/5'	89155	481:;
'48/333 xqghu '49	5/894/68	'6 :39/;</td <td>753/79</td> <td>73/45:/5</td> <td>'6/5:9/4!</td> <td>8618;</td> <td>481<5</td>	753/79	73/45:/5	'6/5:9/4!	8618;	481<5
'49/333 xqghu '4:	5/667/31	'6;/84;/7	75;/64	′6;/<79/:	'6/98;/3	84139	4913:
'4:/333 xqghu '4;	5/676/99	74/354/9	'688/43	74/6:9/:	'6/;47/3!	7;1::(49153
'4;/333 xqghu '4<	5/4<;/<	73/986/8	1887/48	74/53:/:	7/37 6:</td <td>79179 (</td> <td>49168</td>	79179 (49168
'4 333 xqghu '53</td <td>5/497/33</td> <td>′75/4::/8</td> <td>7776/45</td> <td>75/953/9</td> <td>'63/6;7/8·</td> <td>77163</td> <td>4917;</td>	5/497/33	′75/4::/8	7776/45	75/953/9	'63/6;7/8·	77163	4917;
'53/333 xqghu '58	;/<:9/5	1533/;9;/5	15/4: <</td <td>1536/37;/4</td> <td>155/;;7/9</td> <td>7514:</td> <td>48158</td>	1536/37;/4	155/;;7/9	7514:	48158
'58/333 xqghu '63	:/78:/<	′537/6< 4</td <td>'4/<83/;</td> <td>1539/67<!--<</td--><td>7<!--9:7/8</td--><td>661671</td><td>481:6</td></td></td>	'4/<83/;	1539/67 <</td <td>7<!--9:7/8</td--><td>661671</td><td>481:6</td></td>	7 9:7/8</td <td>661671</td> <td>481:6</td>	661671	481:6
'63/333 xqghu '73	44/968/99	′735/<75/<	77/;57/4	73:/:9:/4	75/67 3</td <td>59133 (</td> <td>4718:</td>	59133 (4718:
'73/333 xqghu '83	9/:34/8	′5<:/<47/6	77/957/59	'635/86;/8	'88/9;8/5	47189	49148
'83/333 xqghu ':8	8/95;/96	'666/:43/6	′ <4:/4</td <td>'676/95:/8</td> <td>154/795/6</td> <td>:1<:(</td> <td>4815:</td>	'676/95:/8	154/795/6	:1<:(4815:
':8/333 xqghu '433	4/596/73	43:/757/9	′9/3; :</td <td>'446/847/6</td> <td>154/795/6</td> <td>5176(</td> <td>55185</td>	'446/847/6	154/795/6	5176(55185
'433/333 xqghu '533	<3 68</td <td>44<!--533/7</td--><td>46/937/5</td><td>465/;37/9</td><td>15;/:69/8</td><td>414<(</td><td>561;61</td></td>	44 533/7</td <td>46/937/5</td> <td>465/;37/9</td> <td>15;/:69/8</td> <td>414<(</td> <td>561;61</td>	46/937/5	465/;37/9	15;/:69/8	414<(561;61
'533/333 xqghu '833	56;/3;	19;/<;9/5	'47/67:/9	′;6/666/<	154/685/4	315<(58177
'833/333 xqghu '4/333	74/43	15:/874/7	';/86 ;</td <td>169/3;4/6</td> <td>'<!--87;/5</td--><td>3139(</td><td>5815;</td></td>	169/3;4/6	' 87;/5</td <td>3139(</td> <td>5815;</td>	3139(5815;
′4/333/333 ru p	4:/64	′73/3< 9</td <td>154/939/8</td> <td>194/:39/5</td> <td>'48/4:4/;</td> <td>3135 (</td> <td>5718<</td>	154/939/8	194/:39/5	'48/4:4/;	3135 (5718<

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrq ri dgmxvwhg jurvv lqfrph e

^5' Sulru wr wkh Wd{ Uhirup Dfw ri 4<;9/ ydulrxv sruwlrqv ri fdslwdo jdlqv zhuh h{foxghg iurp wkh frpsxwdwlrq ri DJL/ vxfk wkdw rqo| vrph jdlqv zlqfrphl Odwhu/ doo jdlqv zhuh lqfoxghg lq DJL exw wd{hg dw d suhihuhqwldo udwhl Iru pruh lqirupdwlrq/ sohdvh vhh Juhjj Dl Hvhqzhlq/ 533:/ %Lqglyl Ohjlvodwlyh Klvwru|1% Zdvklqjwrq/ GF= Frqjuhvvlrqdo Uhvhdufk Vhuylfhl
Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqjl Wrwdov lqfox
Vrxufh= WSF fdofxodwlrqv dqg LUV/ 4<;8 Sxeolfdwlrq 4637/ Vwdwlvwlfv ri L
kwwsv=22zzzzlluvljry2sxe2luv0vrl2

4<:8 Hiihfwlyh Wd{ Udwh e| Vl}h ri Dgmxvwhg Ju ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq

Wrwdo Dgmxv Jurvv Lqfr] 6('<7:/:;7/; (< 0'9/637/7 : '5/:46/; 7, ';/3:5/6; 8('45/779/6 : '48/<89/4 7' '53/7<4/<	'3 '995/887	DJL so: h{foxghg sruw ri fdslwdo; '<8 ;58/4 0'9/637/7 '44/77;/:76</th <th>Wrwdo w diwhu fuh '457/6;5/4</th> <th>Wrs DJI shufhqwl 433133</th> <th>wd{ ud ri wrs D shufhqwloh 451<9!</th>	Wrwdo w diwhu fuh '457/6;5/4	Wrs DJI shufhqwl 433133	wd{ ud ri wrs D shufhqwloh 451<9!
Jurvv Lqfr] 6: '<7:/:;7/; :< 0'9/637/7 : '5/:46/; 7, ';/3:5/6; 8: '45/779/6 : '48/<89/4	iurp DJL '45/373/4;4 '3 '995/887	ri fdslwdo ; '<8 ;58/4 0'9/637/7</th <th>diwhu fuh '457/6;5/4</th> <th>433133</th> <th>shufhqwloh</th>	diwhu fuh '457/6;5/4	433133	shufhqwloh
'<7:/:;7/; < 0'9/637/7 : '5/:46/; 7, ';/3:5/68 8' '45/779/6 : '48/<89/4	'45/373/4;4 '3 '995/887	'<8 ;58/4<br 0'9/637/7	′457/6;5/4		
:< 0'9/637/7 : '5/:46/; 7, ';/3:5/68 : '45/779/6 : '48/<89/4	'3 '995/887	0′9/637/7	7		451<9।
: '5/:46/; 7, ';/3:5/68 85 '45/779/6 : '48/<89/4	995/887	, , , , , , , , , , , , , , , , , , ,	′5/<<3	11	
7, ';/3:5/68 89 '45/779/6 148/<89/4	995/887	744/77;/:76	′5/<<3	11/	
8: '45/779/6 : '48/<89/4	14-5/-48	44///;/:/6		<< T < 1 < 4 (451<9(
: 48/<89/4	1425/248		_		
		75;/8<8/774	733/<58	;91;9:4(46136(
7' '53/7<4/<	1]	5;/0<0///4	133/<36	;91;9:4(40130(
,, -	756;/89:	79/:34/<;7	′5/43 <46</td <td>:815643(</td> <td>4616<(</td>	:815643(4616<(
5' '58/<:4/7	50;/09:	/9/:34/<;/	5/43 <46</td <td>:013043(</td> <td>4010< (</td>	:013043(4010< (
44 '5:/349/<	75<5/368	789/494/:74	'6/:<9/9<5	961<889(461;9(
96 '5;/;85/:	5<5/300	09/494/:/4	0/:<9/9<5	301<003(401;9(
4' '64/9:7/4'	/83;/:49	798/546/546	78/8<;/83<	8715433 (47167(
: '66/363/6	03,7.49]] 0/04,/034	0713433(4/10/(
96 '67/79 4</td <td>7674/58:</td> <td>7:3/:33/9:;</td> <td>′9/<59/553</td> <td>7817849(</td> <td>471;7(</td>	7674/58:	7:3/:33/9:;	′9/<59/553	7817849(471;7(
7 68/;<3/5	074/30.] .3/.33/3.,]	7017045(4/1,/(
86 '69/;;8/9	7773/8:5	7:9/;5:/8;7	';/336/;85	6:1997:(48169(
6 '6 834/6</td <td>] //3/0.3</td> <td></td> <td></td> <td>0.1557.(</td> <td>40103(</td>] //3/0.3			0.1557.(40103(
96 '6;/;<6/6	'4/3:3/97;	754;/<65/434	758/767/346	63184::(481<;(
8 4:;/<9;/4] 4/3.3/5//] 34,/(03/434] 30/707/340	03104(4014, (
44 457/643/8	' '	'457/;<9/9	4:/349/5	4719964	4;175
5{ ':7/957/9	1936/:8	':8/55;/7 _'	′44/734/:	:1;884	531991
94 '433/49;/4	15/488/89	'435/656/:	4;/539/<	7184:;	551;5(
73	′4/:76/9	186/5<7/8	'46/676/;	414:97	5;1931
		′54/3:3/6	′9/;57/:4	315594	661<41
:< ';/47 <'</td <td>′<5:/5;</td> <td>′<!--3::/5!</td--><td>′6/5<7/::</td><td>31373<</td><td>6913:1</td></td>	′<5:/5;	′ 3::/5!</td <td>′6/5<7/::</td> <td>31373<</td> <td>6913:1</td>	′6/5<7/::	31373<	6913:1
'5/4;:/<	′73 ;<</td <td>′5/8<:/;(</td> <td>′<86/57</td> <td>313387</td> <td>681:4</td>	′5/8<:/;(′<86/57	313387	681:4
.5 / 5/677/9	':47/;5	′6/38 7!</td <td>′4/39:/4</td> <td>313347</td> <td>671;;</td>	′4/39:/4	313347	671;;
, , , ,					
7 6 4 5	73	73	73	73	73

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilghg dv wd{ diwhu fuhglwv dv d sursruwlrg ri dgmxvwhg jurvv lgfrph e

^{^5&#}x27; Sulru wr wkh Wd{ Uhirup Dfw ri 4<;9/ ydulrxv sruwlrqv ri fdslwdo jdlqv zhuh h{foxghg iurp wkh frpsxwdwlrq ri DJL/ vxfk wkdw rqo| vrph jdlqv zlqfrph1 Odwhu/ doo jdlqv zhuh lqfoxghg lq DJL exw wd{hg dw d suhihuhqwldo udwh1 Iru pruh lqirupdwlrq/ sohdvh vhh Juhjj D1 Hvhqzhlq/ 533:/ %Lqglyl Ohjlvodwlyh Klvwru|1% Zdvklqjwrq/ GF= Frqjuhvvlrqdo Uhvhdufk Vhuylfh1

Lq 4<:8/ fdslwdo jdlqv glvwulexwlrqv uhsruwhg rq Irup 4373 dqg qhw fdslwdo jdlq ohvv qhw fdslwdo orvv duh iluvw vxewudfwhg iurp DJL/ dqg wrwdo fo vxpplqj vkruw whup dqg orqj whup jdlqv dqg orvvhv dqg wzr wlphv wkh jdlqv uhsruwhg rq irup 4373 ohvv orvv fduu|ryhuv/ wkhq dgghg edfn wr DJL1

Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqj1 Wrwdov lqfo> Vrxufh= WSF fdofxodwlrqv dqg LUV/ Vwdwlvwlfv ri Lqfrph 4<:8/ Wc kwwsv=22zzz1luv1jry2sxe2luv0vrl2

4<98 Hiihfwlyh Wd{ Udwh e| Vl}h ri Dgmxvwhg Jurvv Lqfrph ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq wkrxvdqgv ri grooduv`

			Dpr	xdm			Hiihfwly
Vl}h ri dgmx	Qxpehu r		Sruwlrq ri fd	DJL som		Wrs DJI	wd{ uc
jurvv lqfr	uhwxu	Wrwdo Dgmxv	jdlqv h{fox	h{foxghg sruw	Wrwdo w	shufhqw]	ri wrs D
		Jurvv Lqfr	iurp DJL	ri fdslwdo :	diwhu fuh		shufhqwloh
Doo uhwxuqv/	9:/8<9/6:	73 669/:</td <td>'<!--:58/8!</td--><td>74<!--557/:</td--><td>′7<!--85</9</td--><td>433133</td><td>44183</td></td></td></td>	' :58/8!</td <td>74<!--557/:</td--><td>′7<!--85</9</td--><td>433133</td><td>44183</td></td></td>	74 557/:</td <td>′7<!--85</9</td--><td>433133</td><td>44183</td></td>	′7 85</9</td <td>433133</td> <td>44183</td>	433133	44183
Qr dgmxvwhg jurvv lc	6<:/6:	′3	С	′3	′3	433133	441;4
Xqghu '933 '933 xqghu '4/	7/4;3/634 6/539/8!	'3 '853/87	'4<6/545	':46/:89	′7/:5<	<<174 (441;4 441;6
'4/333 xqghu '5,	:/5<;/4!	19/96:/:	0'9:/:5	19/89 <!</td <td>65;/85</td> <td>;;17;</td> <td>441;6</td>	65;/85	;;17;	441;6
'5/333 xqghu '6,	9/45;/:1	43/;99/4	'47 <9</td <td>44/349/4!</td> <td>1:9;/:7</td> <td>::19<</td> <td>441<7</td>	44/349/4!	1:9;/:7	::19<	441<7
'6/333 xqghu '7,	9/36;/:	'4:/9<8/5	1555/65	'4:/<4:/8	4/689/41	9;195	4513;
'7/333 xqghu '8,	8/:9:/8	156/763/<	158:/76	156/9;;/7	'4/;:;/:	8<19<	4515<
'8/333 xqghu '9,	8/793/:	15;/934/9	749/9:	15 34;/6</td <td>′5/73<!--5</td--><td>84149</td><td>4518;</td></td>	′5/73 5</td <td>84149</td> <td>4518;</td>	84149	4518;
'9/333 xqghu ':,	8/7<:/94	'67/<64/5	1536/77	′68/467/9	6/363/5	7613;	451<8
':/333 xqghu ';,	7/<: 96</td <td>'69/;;6/4</td> <td>'4:7/94</td> <td>'6:/38:/:</td> <td>'6/68:/5</td> <td>671<7</td> <td>4617:</td>	'69/;;6/4	'4:7/94	'6:/38:/:	'6/68:/5	671<7	4617:
';/333 xqghu '<,	7/47:/;	′68/33:/3	1567/89	'68/574/8	'6/69;/3!	5:18;	47143
' 333 xqghu '43,</td <td>6/6;:/;(</td> <td>'65/34:/3</td> <td>'485/4;</td> <td>'65/49<!--4</td--><td>'6/59<!--4</td--><td>54177</td><td>471;5</td></td></td>	6/6;:/;('65/34:/3	'485/4;	'65/49 4</td <td>'6/59<!--4</td--><td>54177</td><td>471;5</td></td>	'6/59 4</td <td>54177</td> <td>471;5</td>	54177	471;5
'43/333 xqghu '48	:/:47/89	′ <4/87 ;</td <td>'<44/78</td> <td>′<5/794/5</td> <td>'43/:44/<</td> <td>49176</td> <td>48194</td>	'<44/78	′<5/794/5	'43/:44/<	49176	48194
'48/333 xqghu '53,	4/:94/ </td <td>15<!--;7</8</td--><td>1993/3:</td><td>'63/83<!--9:</td--><td>77/4;;/<</td><td>8135 (</td><td>4<16<</td></td></td>	15 ;7</8</td <td>1993/3:</td> <td>'63/83<!--9:</td--><td>77/4;;/<</td><td>8135 (</td><td>4<16<</td></td>	1993/3:	' 63/83 9:</td <td>77/4;;/<</td> <td>8135 (</td> <td>4<16<</td>	77/4;;/<	8135 (4<16<
'53/333 xqghu '83	4/6<6/;	'6 856/:</td <td>′4/;;7/:٠</td> <td>74/73;/8</td> <td>':/76<!--;</td--><td>5174 (</td><td>541<7</td></td>	′4/;;7/:٠	74/73;/8	':/76 ;</td <td>5174 (</td> <td>541<7</td>	5174 (541<7
'83/333 xqghu '433	4;;/<4	45/773/6	'4/594/5	'46/:34/9'	'6/987/4!	3168(5;14<
'433/333 xqghu '833	76/<9	′:/497/7.	'4/:97/9	';/<5 4</td <td>15/:85/40</td> <td>313:</td> <td>5<1;6</td>	15/:85/40	313:	5<1;6
'833/333 xqghu '4/333	4/73	'<79/47	′7::/<;	14/757/40	73;/73	3133 (5:177
'4/333/333 ru p	979	'4/767/6!	′;5;/8;	′5/595/<	1936/63	3133 (59199

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrg ri dgmxvwhg jurvv lqfrph e

 $\textit{Lq 4<98/ jdlqv +ru orvvhv, douhdg| lqfoxghg lq DJL duh vxewudfwhg iurp DJL/ dqg wrwdo qhw fdslwdo jdlqv2orvvhv ohvv fduu|ryhu lv uhfdofxodwhg dqg dgg dgg black and black black$

Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqj1 Wrwdov lqfo> Vrxufh= WSF fdofxodwlrqv dqg LUV/ Vwdwlvwlfv ri Lqfrph 4< kwwsv=22zzz1luv1jry2sxe2luv0vrl2

^{^5&#}x27; Sulru wr wkh Wd{ Uhirup Dfw ri 4<;9/ ydulrxv sruwlrqv ri fdslwdo jdlqv zhuh h{foxghg iurp wkh frpsxwdwlrq ri DJL/ vxfk wkdw rqo| vrph jdlqv zhuh lqfrphl Odwhu/ doo jdlqv zhuh lqfoxghg lq DJL exw wd{hg dw d suhihuhqwldo udwhl Iru pruh lqirupdwlrq/ sohdvh vhh Juhjj D1 Hvhqzhlq/ 533:/ %Lqglylgxdc Ohjlvodwlyh Klvwru|1% Zdvklqjwrq/ GF= Frqjuhvvlrqdo Uhvhdufk Vhuylfhl

4<88 Hiihfwlyh Wd{ Udwh e| Vl}h ri Dgmxvwhg Jurvv Lqfrph ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq wkrxvdqgv ri grooduv`

Vl}h ri dgmx jurvv lqfr	Qxpehu r: uhwxu		Sruwlrg ri fd				
jurvv lqfr	າງກຸ່ນຂາງເ		Sruwird ri id	DJL sox		Wrs DJI	wd{ uc
		Wrwdo Dgmxv	jdlqv h{fox	h{foxghg sruw	Wrwdo w	shufhqw]	ri wrs D
		Jurvv Lqfrj	iurp DJL	ri fdslwdo :	diwhu fuh		shufhqwloh
oo uhwxuqv/	8;/583/4	157 75</4</td <td>′7/8:9/9:</td> <td>1587/338/:</td> <td>'5<!--946/:</td--><td>433133</td><td>44199</td></td>	′ 7/8:9/9:	1587/338/:	'5 946/:</td <td>433133</td> <td>44199</td>	433133	44199
Qr dgmxvwhg jurvv lc	765/35	′3	189/:3	189/:3	С	433133	44199
Xqghu '93	6/;6 66</td <td>'4/594/:</td> <td>45/99</td> <td>'4/5:7/6</td> <td>C</td> <td><<159</td> <td>44199</td>	'4/594/:	45/99	'4/5:7/6	C	<<159	44199
'933 xqghu '4/	6/535/:4	15/899/4	′58/4:	′5/8<4/5	75/4:	<519:	441:5
'4/333 xqghu '4,	7/856/88	18/949/7	77;/4:	18/997/96	1549/7:	;:14:	441;5
'4/833 xqghu '5,	7/458/79	':/545/7!	'8;/48	':/5:3/8	'685/<7	:<173	45134
'5/333 xqghu '5,	7/449/;	' 5:8/3</td <td>':8/45</td> <td>′<!--683/4</td--><td>'884/:4</td><td>:5165</td><td>45156</td></td>	':8/45	′ 683/4</td <td>'884/:4</td> <td>:5165</td> <td>45156</td>	'884/:4	:5165	45156
'5/833 xqghu '6,	7/644/;	44/;8;/8	19:/;;	'44/<59/6	′:<6/:<	98158	4517<
'6/333 xqghu '6,	7/65 8</td <td>47/398/;</td> <td>':3/:3</td> <td>47/469/8</td> <td>'4/39:/6</td> <td>8:1;8</td> <td>451;4</td>	47/398/;	':3/:3	47/469/8	'4/39:/6	8:1;8	451;4
'6/833 xqghu '7,	7/668/7!	'49/587/8 _'	193/88	'49/648/3	4/647/7	83175	4614;
'7/333 xqghu '7,	7/49 ;</td <td>'4:/:46/7</td> <td>':8/3:</td> <td>'4:/:;;/8</td> <td>′4/836/44</td> <td>751<;</td> <td>46196</td>	'4:/:46/7	':8/3:	'4:/:;;/8	′4/836/44	751<;	46196
'7/833 xqghu '8,	6/;6;/:('4;/54:/3	19;/9;	'4;/5;8/:	′4/959/50	681;5	4714;
'8/333 xqghu '9,	8/;95/94	' 65/394/9'	'4;4/77	'65/576/3	′6/3:9/<	5<156	471;6
'9/333 xqghu ':,	6/;:4/;	158/353/;	'473/3;	′58/493/<	15/:45/3	4<149	4915;
':/333 xqghu ';,	5/733/46	'4:/;<:/7	'446/68	'4;/343/:	′5/455/:4	45185	4:1:<
';/333 xqghu '<,	4/745/:{	′44/<73/3	455/38	45/395/3	'4/864/;	;173 (4<158
' 333 xqghu '43,</td <td><45/3<</td> <td>';/955/5_'</td> <td>′<9/5<</td> <td>′;/:4;/8</td> <td>4/4:3/7</td> <td>81<: (</td> <td>53186</td>	<45/3<	';/955/5 _'	′<9/5<	′;/:4;/8	4/4:3/7	81<: (53186
'43/333 xqghu '48,	4/84;/5	'4:/<56/8	′75 7:</td <td>4;/686/3</td> <td>'5/9<5/6'</td> <td>7173 (</td> <td>541:3</td>	4;/686/3	' 5/9<5/6'	7173 (541:3
'48/333 xqghu '53,	758/<;	':/633/5	1599/8;	':/899/;'	4/63;/5	41;3(58173
'53/333 xqghu '58,	543/5;	17/9;6/50	1549/5:	′7/;< 8</td <td>′<94/3;</td> <td>413:</td> <td>5:199</td>	′<94/3;	413:	5:199
'58/333 xqghu '63	453/94	′6/5; 9</td <td>'4:<!--93</td--><td>′6/79<!--5</td--><td>':78/<6</td><td>31:4</td><td>5<175</td></td></td>	'4: 93</td <td>′6/79<!--5</td--><td>':78/<6</td><td>31:4</td><td>5<175</td></td>	′6/79 5</td <td>':78/<6</td> <td>31:4</td> <td>5<175</td>	':78/<6	31:4	5<175
'63/333 xqghu '83	4<3/:3	':/475/;	7<5/59	′:/968/3	′4/<95/40	3183 (631;;
'83/333 xqghu '433	::/93	'8/484/9	'88:/85	18/:3 5</td <td>4/;85/79</td> <td>314:(</td> <td>67173</td>	4/;85/79	314:(67173
'433/333 xqghu '483	45/<9	'4/87 :</td <td>157<!--87</td--><td>'4/:<<!--60</td--><td>1986/6<</td><td>3137 (</td><td>69175</td></td></td>	157 87</td <td>'4/:<<!--60</td--><td>1986/6<</td><td>3137 (</td><td>69175</td></td>	'4/:< 60</td <td>1986/6<</td> <td>3137 (</td> <td>69175</td>	1986/6<	3137 (69175
'483/333 xqghu '533	6/<7	19:8/89	'484/5;	';59/;7	'638/ ; 6	3135 (6917:
'533/333 xqghu '833	7/35	′4/476/98	1679/35	'4/7; 9</td <td>′87<!--4:</td--><td>3134 (</td><td>69165</td></td>	′87 4:</td <td>3134 (</td> <td>69165</td>	3134 (69165
'833/333 xqghu '4/333	95;	′74:/<:	'4:3/;3	′8;;/:;	153 ;7</td <td>3133 (</td> <td>681:7</td>	3133 (681:7
'4/333/333 ru r	59:	189:/8;	1578/3;	';45/99	′5<3/<;	3133 (681;4

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrq ri dgmxvwhg jurvv lqfrph e

Lq 4<88/ jdlqv +ru orvvhv, douhdg | lqfoxghg lq DJL duh vxewudfwhg iurp DJL/ dqg wrwdo qhw fdslwdo jdlqv2orvvhv ohvv fduu | ryhu lv uhfdofxodwhg dqg dgg

^{^5&#}x27; Sulru wr wkh Wd{ Uhirup Dfw ri 4<;9/ ydulrxv sruwlrqv ri fdslwdo jdlqv zhuh h{foxghg iurp wkh frpsxwdwlrq ri DJL/ vxfk wkdw rqo| vrph jdlqv zhuh lqfrph1 Odwhu/ doo jdlqv zhuh lqfoxghg lq DJL exw wd{hg dw d suhihuhqwldo udwh1 Iru pruh lqirupdwlrq/ sohdvh vhh Juhjj D1 Hvhqzhlq/ 533:/ %Lqglylgxdo Ohjlvodwlyh Klvwru|1% Zdvklqjwrq/ GF= Frqjuhvvlrqdo Uhvhdufk Vhuylfh1

Qrwh= Ghwdlo pd| qrw dgg wr wrwdov ehfdxvh ri urxqglqj1 Wrwdov lqfo> Vrxufh= WSF fdofxodwlrqv dqg LUV/ Vwdwlvwlfv ri Lqfrph/ Lqglylgxdo Lqfrph Wd{ Uhwxukwwsv=22zzzlluvljry2sxe2luv0vrl2

4<78 Hiihfwlyh Wd{ Udwh e| vl}h ri Dgmxvwhg Ju ^Doo iljxuhv duh hvwlpdwhv edvhg rq vdpsohv00prqh| dprxqwv duh lq

			Dpr	xdm			Hiihfwly
Vl}h ri dgmx	Qxpehu r		Sruwlrq ri fd	DJL so:		Wrs DJ1	wd{ ud
jurvv lqfr	uhwxuc	Wrwdo Dgmxv	jdlqv h{fox	h{foxghg sruw	Wrwdo w	shufhqwl	ri wrs D
		Jurvv Lqfr]	iurp DJL	ri fdslwdo j	diwhu fuh		shufhqwloh
Doo uhwxuqv/	7 :83/<</td <td>453/33;/9</td> <td>'6/<69/6</td> <td>455/44:/:</td> <td>4:/383/6</td> <td>433133</td> <td>461<8</td>	453/33;/9	'6/<69/6	455/44:/:	4:/383/6	433133	461<8
Xqqhu '83	8/785/38	'4/7<;/7	′8/54	′4/7<;/7	С	433133	461<8
'833 xqghu '4/	9/546/4	7/993/<	'49/:8	77/9::/:(46;/73	;<137	47146
'4/333 xqghu '4,	:/64 45</td <td>'<!--546/<</td--><td>159/7;</td><td>′<!--573/7</td--><td>18:8/<4</td><td>:9188</td><td>4718;</td></td></td>	' 546/<</td <td>159/7;</td> <td>′<!--573/7</td--><td>18:8/<4</td><td>:9188</td><td>4718;</td></td>	159/7;	′ 573/7</td <td>18:8/<4</td> <td>:9188</td> <td>4718;</td>	18:8/<4	:9188	4718;
'4/833 xqghu '5,	:/4:8/:6	45/86:/;	79/57	'45/8;7/4	'4/3:4/:	941;7	48163
'5/333 xqghu '5,	9/67;/4	47/569/3	7 39</td <td>47/5;8/4</td> <td>'4/677/<'</td> <td>7:175</td> <td>49154</td>	47/5;8/4	'4/677/<'	7:175	49154
'5/833 xqghu '6,	8/585/49	47/6<7/9	197/65	'47/78;/<	'4/757/ ; !	671991	4:175
'6/333 xqghu '7,	9/:6:/7	′56/475/8·	'44;/53	'56/593/:	′5/89 7⋅</td <td>57143</td> <td>4<143</td>	57143	4<143
'7/333 xqghu '8,	5/945/;	'44/874/<	′<8/67	44/96:/6	′4/83:/8	43189	56187
'8/333 xqghu '43,	4/;;8/7	45/5:6/5	15:8/69	'45/87;/8	15/44 89</td <td>8164(</td> <td>5:18<</td>	8164(5:18<
'43/333 xqghu '48	686/67	7/59:/4	'483/57	7/74:/6	′4/358/6	4185(6813;
'48/333 xqghu '53	488/63	′5/99 ; /<{	′<;/85	15/:9:/7	'::8/4;	31;4(6;1<9
'53/333 xqghu '58	;6/55	'4/;86/:4	':;/38	'4/<64/:	194 <4</td <td>317<(</td> <td>741:;</td>	317<(741:;
'58/333 xqghu '83	453/55	7/385/99	1568/9;	7/5;;/6	'4/98 9!</td <td>3166(</td> <td>761<3</td>	3166(761<3
'83/333 xqghu '433	66/7<	′5/565/:	1535/:6	15/768/81	′4/489/5	313<(7;1;6
'433/333 xqghu '483	8/86	1994/79	';;/47	':7 93</td <td>′6;:/<9</td> <td>3135(</td> <td>83175</td>	′6;:/<9	3135(83175
'483/333 xqghu '633	5/;:	189 8<</td <td>'44:/;9</td> <td>19;:/79</td> <td>683/43</td> <td>3134 (</td> <td>7<199</td>	'44:/;9	19;:/79	683/43	3134 (7<199
'633/333 xqghu '833	85;	1535/36	19:/6<	159 76</td <td>456/94</td> <td>3133 (</td> <td>7;165</td>	456/94	3133 (7;165
'833/333 xqghu '4/333	58;	'49 :7</td <td>′83/:;</td> <td>1553/86</td> <td>43<!--<9</td--><td>3133 (</td><td>83139</td></td>	′83/:;	1553/86	43 <9</td <td>3133 (</td> <td>83139</td>	3133 (83139
′4/333/333 ru p	:4	456/6;	′68/68	48;/:6	': <3</td <td>3133 (</td> <td>83166</td>	3133 (83166

^{^4&#}x27; Hiihfwlyh wd{ udwh ghilqhg dv wd{ diwhu fuhglwv dv d sursruwlrq ri dgmxvwhg jurvv lqfrph e | Qrwh= Ghwdlo pd | qrw dgg wr wrwdov ehfdxvh ri urxqglqjl Wrwdov lqfo>
Vrxufh= WSF fdofxodwlrqv dqg LUV/ Vwdwlvwlfv ri Lqfrph iru 4<78/
kwwsv=22zzzzlluvljry2sxe2luv0vrl278vrli
Dovr dffhvvhq yld Jrrjoh

VRXUFHV

VRL uhsruwv iru hdfk | hdu vlqfh 4<4: duh dydlodeoh rqolqh dw wkh iroorzlqj olqnv=

\HDU	VLWH	
4<4:04<67	kwwsv=22zzz1luv1jry2sxe2luv0vrl2{{vrluhssw4du1sgi/ uhsodflqj {{ zlwk wkh wzr0gljlw kwws=22zzz1luv1jry2sxe2luv0vrl167vrluhssw4du1sgi	hdu/ h1j1
4<6704<<<	$\underline{kwwsv} = 22zzz1luv1jry2vwdwlvwlfv2vrl0wd\{0vwdwv0dufklyh04 < 670wr04 < < 0wd\{0lqirupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupdwlrq0iurupd$	rp0lqglylgxdov
4<<90534:	$\underline{kwwsv} = 22zzz1luv1jry2vwdwlvwlfv2vrl0wd \\ \{0vwdwv0lqqlylqxdo0lqfrph0wd \\ \{0uhwxuqv0sxeolfdwldvwlfv2vrl0wd \\ \{0vwdwv0lqqlylqxdo0lqfrph0wd \\ \{0uhwxuqv0sxeolfdwldwldvwlfv2vrl0wd \\ \{0vwdwv0lqqlylqxdo0lqfrph0wd \\ \{0uhwxuqv0sxeolfdwldwldwldwldwldwldwldwlfv2vrl0wd \\ \{0vwdwv0lqqlylqxdo0lqfrph0wd \\ \{0uhwxuqv0sxeolfdwldwldwldwldwldwldwldwldwldwldwldwldwld$	rq046370frpsohwh0uhsruw