

## Projected Correlations among Asset Class Expected Returns

	US large-cap stocks	US small-cap stocks	UK stocks	Euro area stocks	Japan stocks	Emerging market stocks	Venture capital	Real estate	Commodities	Intermediate-term Treasuries	Long-term Treasuries	TIPS	Long-term corporate bonds	High-yield bonds	MBSs	Foreign investment-grade bonds	Emerging market sovereign debt
<b>US large-cap stocks</b>	1.00	0.66	0.59	0.70	0.30	0.30	0.65	0.40	-0.28	0.05	0.10	-0.05	0.20	0.55	0.10	0.00	0.25
<b>US small-cap stocks</b>	0.66	1.00	0.48	0.50	0.26	0.55	0.30	0.64	-0.35	-0.07	0.00	-0.15	0.10	0.65	-0.03	-0.04	0.40
<b>UK stocks</b>	0.59	0.48	1.00	0.59	0.45	0.53	0.57	0.30	-0.22	0.00	0.00	0.00	0.10	0.40	-0.10	0.16	0.30
<b>Euro area stocks</b>	0.70	0.50	0.59	1.00	0.42	0.40	0.50	0.20	-0.12	0.08	0.08	0.05	0.20	0.52	-0.06	0.20	0.30
<b>Japan stocks</b>	0.30	0.26	0.45	0.42	1.00	0.65	0.55	-0.09	0.07	-0.20	-0.10	-0.20	-0.16	0.15	-0.10	0.12	0.20
<b>Emerging market stocks</b>	0.30	0.55	0.53	0.40	0.65	1.00	0.25	0.22	0.14	-0.12	-0.13	-0.10	-0.09	0.41	-0.05	0.00	0.50
<b>Venture capital</b>	0.65	0.30	0.57	0.50	0.55	0.25	1.00	-0.10	0.00	-0.20	-0.15	-0.25	0.00	0.15	-0.04	0.00	0.05
<b>Real estate</b>	0.40	0.64	0.30	0.20	-0.09	0.22	-0.10	1.00	-0.22	0.14	0.16	0.20	0.20	0.59	0.12	0.00	0.30
<b>Commodities</b>	-0.28	-0.35	-0.22	-0.12	0.07	0.14	0.00	-0.22	1.00	-0.22	-0.20	0.30	-0.20	-0.15	-0.04	-0.08	0.00
<b>Intermediate-term Treasuries</b>	0.05	-0.07	0.00	0.08	-0.20	-0.12	-0.20	0.14	-0.22	1.00	0.90	0.40	0.90	0.33	0.78	0.29	0.19
<b>Long-term Treasuries</b>	0.10	0.00	0.00	0.08	-0.10	-0.13	-0.15	0.16	-0.20	0.90	1.00	0.25	0.93	0.35	0.75	0.20	0.20
<b>TIPS</b>	-0.05	-0.15	0.00	0.05	-0.20	-0.10	-0.25	0.20	0.30	0.40	0.25	1.00	0.20	0.15	0.30	0.15	0.19
<b>Long-term corporate bonds</b>	0.20	0.10	0.10	0.20	-0.16	-0.09	0.00	0.20	-0.20	0.90	0.93	0.20	1.00	0.43	0.75	0.24	0.19
<b>High-yield bonds</b>	0.55	0.65	0.40	0.52	0.15	0.41	0.15	0.59	-0.15	0.33	0.35	0.15	0.43	1.00	0.15	0.28	0.64
<b>MBSs</b>	0.10	-0.03	-0.10	-0.06	-0.10	-0.05	-0.04	0.12	-0.04	0.78	0.75	0.30	0.75	0.15	1.00	0.25	0.20
<b>Foreign investment-grade bonds</b>	0.00	-0.04	0.16	0.20	0.12	0.00	0.00	0.00	-0.08	0.29	0.20	0.15	0.24	0.28	0.25	1.00	0.05
<b>Emerging market sovereign debt</b>	0.25	0.40	0.30	0.30	0.20	0.50	0.05	0.30	0.00	0.19	0.20	0.19	0.19	0.64	0.20	0.05	1.00