Countercyclical Currency Risk Premia
- Supplementary Online Appendix -
NOT FOR PUBLICATION

This separate appendix reports the following results:

- Table XI: Summary Statistics — Average Forward Discounts and Average Excess Returns

- Table XII: Forecasting Returns and Exchange Rates with the U.S.-specific Component of the Average Forward Discount of Developed Countries;

- Table XIII: Forecasting Returns and Exchange Rates with Real-Time Industrial Production Index and the Average Forward Discount;

- Table XIV: Forecasting Returns and Exchange Rates with Industrial Production Residual and the Average Forward Discount;

- Table XV: Forecasting Excess Returns with Average Forward Discounts - Foreign Investors;

- Table XVI: Out-of-Sample Return and Exchange Rate Predictability: Comparison with a Random Walk.

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Table XI: Summary Statistics – Average Forward Discounts and Average Excess Returns

Horizon	1	2	3	6	12
Panel A: Developed Countries					
Average Forward Discount, $\overline{f}_{t \to t+1} - \overline{s}_t$					
Mean	0.91	0.90	0.87	0.78	0.60
Std.	2.11	2.02	1.97	1.88	1.75
Auto	0.89	0.96	0.97	0.98	0.98
Average Spot Change, $-\overline{\Delta s}_{t \to t+1}$					
Mean	1.33	1.32	1.45	1.56	1.80
Std.	8.65	9.06	9.30	9.92	9.87
Average Excess Returns, $\overline{rx}_{t+1}$					
Mean	2.25	2.23	2.33	2.35	2.43
Std.	8.73	9.20	9.50	10.27	10.37
Panel B: Emerging Countries					
Average Forward Discount, $\overline{f}_{t \to t+1} - \overline{s}_t$					
Mean	3.10	3.04	2.99	2.83	2.57
Std.	3.32	3.09	2.98	2.76	2.50
Auto	0.84	0.91	0.93	0.95	0.96
Average Spot Change, $-\overline{\Delta s}_{t \to t+1}$					
Mean	-3.55	-3.49	-3.36	-3.30	-3.14
Std.	8.30	8.76	9.19	10.42	11.26
Average Excess Returns, $\overline{rx}_{t+1}$					
Mean	-0.33	-0.49	-0.46	-0.72	-0.62
Std.	8.44	8.66	9.05	10.28	11.17
Panel C: All Countries					
Average Forward Discount, $\overline{f}_{t \to t+1} - \overline{s}_t$					
Mean	1.82	1.79	1.76	1.66	1.44
Std.	1.74	1.65	1.62	1.61	1.57
Auto	0.84	0.93	0.95	0.96	0.97
Average Spot Change, $-\overline{\Delta s}_{t \to t+1}$					
Mean	0.08	0.09	0.22	0.29	0.55
Std.	7.65	8.09	8.36	9.01	9.03
Average Excess Returns, $\overline{rx}_{t+1}$					
Mean	1.97	1.91	1.99	1.95	2.09
Std.	7.79	8.23	8.55	9.33	9.55

Notes: This table reports the summary statistics of the currency baskets for developed countries, emerging markets, and all countries in our sample. We consider different horizons: 1, 2, 3, 6, and 12 months. For each basket $j \in \{Developed, Emerging, All\}$ and each horizon, the table presents the annualized means, standard deviations and autocorrelations of average forward discounts $\overline{f}^{j}_{t \to t+1} - \overline{s}^{j}_t$, average spot rate changes $-\overline{\Delta s}^{j}_{t \to t+1}$, and average log excess returns $\overline{rx}^{j}_{t+1}$, in percentage points. The sample period is 11/1983–6/2010.

Table XII: Forecasting Returns and Exchange Rates with the U.S.-specific Component of the Average Forward Discount of Developed Countries

| | Developed Countries | | | | Emerging Countries | | | | All Countries | | | |
| | Excess Returns | | Exchange Rates | | Excess Returns | | Exchange Rates | | Excess Returns | | Exchange Rates | |
Horizon	$\psi_\mathbf{f}$	R^2	$\zeta_\mathbf{f}$	R^2	$\psi_\mathbf{f}$	R^2	$\zeta_\mathbf{f}$	R^2	$\psi_\mathbf{f}$	R^2	$\zeta_\mathbf{f}$	R^2
1	2.24	2.23	1.24	0.70	1.64	1.29	1.60	1.26	1.96	2.14	1.27	0.94
NW	[1.87]		[1.05]		[1.66]		[1.40]		[1.80]		[1.18]	
VAR	[2.43]		[1.41]		[1.99]		[1.88]		[2.38]		[1.63]	
2	2.23	3.66	1.23	1.16	1.61	2.17	1.65	2.23	1.95	3.51	1.29	1.58
NW	[1.76]		[0.99]		[1.20]		[1.10]		[1.69]		[1.12]	
VAR	[2.11]		[1.30]		[1.58]		[1.67]		[2.15]		[1.41]	
3	2.16	4.63	1.16	1.40	1.51	2.48	1.55	2.55	1.86	4.25	1.21	1.87
NW	[1.53]		[0.83]		[1.09]		[1.01]		[1.45]		[0.95]	
VAR	[1.97]		[1.14]		[1.44]		[1.45]		[2.01]		[1.36]	
6	2.20	7.60	1.20	2.43	1.51	3.57	1.60	3.89	1.89	6.78	1.25	3.16
NW	[1.45]		[0.80]		[1.09]		[1.04]		[1.37]		[0.91]	
VAR	[2.18]		[1.27]		[1.47]		[1.64]		[2.16]		[1.41]	
12	1.95	9.96	0.95	2.63	1.80	7.32	1.89	7.93	1.66	8.53	1.03	3.64
NW	[1.45]		[0.71]		[1.27]		[1.18]		[1.36]		[0.83]	
VAR	[1.95]		[1.03]		[2.26]		[2.42]		[1.82]		[1.26]	

Notes: This table reports results of forecasting regressions for average excess returns and average exchange rate changes for baskets of currencies at horizons of one, two, three, six and twelve months. For each basket we report the R^2, and the slope coefficient in the time-series regression of the log currency excess return of a given basket on the U.S.-specific component of average log forward discount for developed countries ($\psi_\mathbf{f}$), and similarly the slope coefficient $\zeta_\mathbf{f}$ and the R^2 for the regressions of average exchange rate changes. The U.S. specific component is estimated as the residual from the regression

$$(\overline{f}_{t\to t+k} - \overline{s}_t) \;=\; \alpha + \beta\overline{\Delta \log IP_t} + AFD_{res,t},$$
$$\overline{rx}_{t\to t+k} \;=\; \psi_0 + \psi_\mathbf{f} AFD_{res,t} + \eta_{t+1},$$

where $\overline{\Delta \log IP_t}$ denotes the average of the 12-month changes in IP indices across 28 developed countries (excluding the U.S.). The t-statistics for the slope coefficients in brackets are computed using the following methods. *NW* denotes Newey and West (1987) standard errors computed with the optimal number of lags following Andrews (1991). The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag. Data are monthly, from Barclays and Reuters (available via Datastream). The returns do not take into account bid-ask spreads. The sample period is 11/1983–6/2010.

Table XIII: Forecasting Excess Returns and Exchange Rates with Real-Time Industrial Production Index and the Average Forward Discount

| | Developed Countries | | | | | | | | Emerging Countries | | | | | | | | All Countries | | | | | | | |
| | Excess Returns | | | | Exchange Rates | | | | Excess Returns | | | | Exchange Rates | | | | Excess Returns | | | | Exchange Rates | | | |
Horizon	ψ_{IP}	$\psi_{\mathbf{f}}$	W	R^2	ζ_{IP}	$\zeta_{\mathbf{f}}$	W	R^2	ψ_{IP}	$\psi_{\mathbf{f}}$	W	R^2	ζ_{IP}	$\zeta_{\mathbf{f}}$	W	R^2	ψ_{IP}	$\psi_{\mathbf{f}}$	W	R^2	ζ_{IP}	$\zeta_{\mathbf{f}}$	W	R^2
1	-0.41	1.79	13.49	4.57	-0.41	0.79	8.35	2.73	-0.22	-0.34	1.83	0.78	-0.22	-1.34	4.95	3.01	-0.35	1.55	7.15	3.40	-0.35	0.55	4.68	2.10
NW	[-2.14]	[1.66]	[0.01]		[-2.14]	[0.73]	[1.44]		[-1.24]	[-0.44]	[66.89]		[-1.24]	[-1.74]	[15.50]		[-1.93]	[1.31]	[3.60]		[-1.93]	[0.46]	[18.18]	
VAR	[-2.06]	[1.95]	[0.00]		[-1.97]	[0.87]	[0.00]		[-1.23]	[-0.66]	[0.10]		[-1.11]	[-2.62]	[0.00]		[-1.89]	[1.74]	[0.00]		[-1.82]	[0.58]	[0.00]	
2	-0.41	1.77	12.17	7.93	-0.41	0.77	8.10	4.88	-0.22	-0.80	1.79	2.68	-0.22	-1.80	3.11	8.00	-0.35	1.56	9.60	5.91	-0.35	0.56	7.04	3.75
NW	[-2.48]	[1.84]	[0.05]		[-2.48]	[0.80]	[1.76]		[-1.31]	[-0.69]	[67.82]		[-1.31]	[-1.55]	[40.68]		[-2.57]	[1.67]	[0.52]		[-2.57]	[0.60]	[3.91]	
VAR	[-1.94]	[1.62]	[0.00]		[-2.05]	[0.80]	[0.00]		[-1.24]	[-1.39]	[0.00]		[-1.15]	[-3.02]	[0.00]		[-1.97]	[1.38]	[0.00]		[-2.09]	[0.55]	[0.00]	
3	-0.40	1.72	11.14	10.36	-0.40	0.72	7.44	6.40	-0.24	-0.71	1.84	3.40	-0.24	-1.71	3.14	9.75	-0.34	1.52	9.27	7.74	-0.34	0.52	6.75	4.95
NW	[-2.26]	[1.50]	[0.13]		[-2.26]	[0.63]	[2.90]		[-1.34]	[-0.63]	[66.67]		[-1.34]	[-1.52]	[40.17]		[-2.44]	[1.40]	[0.68]		[-2.44]	[0.48]	[4.82]	
VAR	[-2.01]	[1.57]	[0.00]		[-2.05]	[0.68]	[0.00]		[-1.28]	[-1.20]	[0.10]		[-1.24]	[-2.67]	[0.00]		[-2.10]	[1.33]	[0.00]		[-1.93]	[0.41]	[0.00]	
6	-0.32	1.82	8.56	14.47	-0.32	0.82	5.16	8.38	-0.26	-0.47	1.65	4.46	-0.26	-1.47	3.15	11.39	-0.28	1.80	7.50	12.04	-0.28	0.80	4.71	7.11
NW	[-1.69]	[1.43]	[1.22]		[-1.69]	[0.64]	[13.73]		[-1.28]	[-0.51]	[70.70]		[-1.28]	[-1.60]	[40.01]		[-1.91]	[1.66]	[2.77]		[-1.91]	[0.74]	[17.88]	
VAR	[-1.69]	[1.73]	[0.00]		[-1.92]	[0.80]	[0.00]		[-1.53]	[-0.83]	[0.00]		[-1.49]	[-2.23]	[0.00]		[-1.82]	[1.68]	[0.10]		[-1.74]	[0.69]	[0.00]	
12	-0.27	1.51	6.66	19.04	-0.27	0.51	3.89	10.57	-0.29	-0.29	4.06	7.94	-0.29	-1.29	4.03	15.79	-0.26	1.40	6.95	15.90	-0.26	0.40	4.01	9.38
NW	[-1.69]	[1.35]	[5.10]		[-1.69]	[0.46]	[27.92]		[-1.90]	[-0.34]	[25.63]		[-1.90]	[-1.50]	[25.98]		[-1.89]	[1.64]	[4.17]		[-1.89]	[0.47]	[26.27]	
VAR	[-1.80]	[1.51]	[0.00]		[-1.78]	[0.54]	[0.00]		[-2.58]	[-0.50]	[0.00]		[-2.43]	[-2.15]	[0.10]		[-1.88]	[1.35]	[0.00]		[-1.89]	[0.39]	[0.10]	

Notes: This table reports results of forecasting regressions for average excess returns and average exchange rate changes for baskets of currencies at horizons of one, two, three, six and twelve months. For each basket we report the R^2, and the slope coefficients in the time-series regression of the log currency excess return on the 12-month change in the U.S. Industrial Production Index (ψ_{IP}) and on the average log forward discount ($\psi_{\mathbf{f}}$), and similarly the slope coefficients ζ_{IP}, $\zeta_{\mathbf{f}}$ and the R^2 for the regressions of average exchange rate changes. The Industrial Production Index is based on the vintage initial release (i.e., real-time) data, available from the Federal Reserve Board. The t-statistics for the slope coefficients in brackets are computed using the following methods. *NW* denotes Newey and West (1987) standard errors computed with the optimal number of lags following Andrews (1991). The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag. We also report the Wald tests (W) of the hypothesis that both slope coefficients are jointly equal to zero; the percentage p-values in brackets are for the χ^2-distribution under the parametric cases (NW) and for the bootstrap distribution of the F statistic under VAR. Data are monthly, from Barclays and Reuters (available via Datastream). The returns do not take into account bid-ask spreads. The sample period is 11/1983–6/2010.

Table XIV: Forecasting Returns and Exchange Rates with Industrial Production Residual and the Average Forward Discount

	Developed Countries								Emerging Countries								All Countries							
	Excess Returns				Exchange Rates				Excess Returns				Exchange Rates				Excess Returns				Exchange Rates			
Horizon	ψ_{IP}	$\psi_{\mathbf{f}}$	W	R^2	ζ_{IP}	$\zeta_{\mathbf{f}}$	W	R^2	ψ_{IP}	$\psi_{\mathbf{f}}$	W	R^2	ζ_{IP}	$\zeta_{\mathbf{f}}$	W	R^2	ψ_{IP}	$\psi_{\mathbf{f}}$	W	R^2	ζ_{IP}	$\zeta_{\mathbf{f}}$	W	R^2
1	-0.22	2.42	5.44	2.94	-0.22	1.42	1.98	1.07	-0.79	-0.26	0.89	0.60	-0.83	-1.19	5.23	2.84	-0.44	2.09	3.39	1.99	-0.46	1.02	1.04	0.64
NW	[-0.24]	[2.21]	[11.54]		[-0.25]	[1.30]	[63.59]		[-0.71]	[-0.31]	[86.41]		[-0.74]	[-1.69]	[13.14]		[-0.52]	[1.79]	[35.79]		[-0.55]	[0.89]	[83.57]	
VAR	[-0.33]	[2.74]	[0.00]		[-0.31]	[1.68]	[0.20]		[-1.10]	[-0.57]	[0.30]		[-1.25]	[-2.38]	[0.00]		[-0.69]	[2.29]	[0.00]		[-0.77]	[1.18]	[0.10]	
2	-0.68	2.39	6.75	5.53	-0.68	1.40	3.10	2.41	-0.89	-0.69	1.31	2.56	-0.88	-1.58	2.44	7.34	-0.82	2.14	5.72	4.15	-0.81	1.11	2.40	1.90
NW	[-0.95]	[2.22]	[4.79]		[-0.96]	[1.29]	[40.85]		[-1.13]	[-0.62]	[77.93]		[-1.10]	[-1.49]	[53.79]		[-1.13]	[2.17]	[9.62]		[-1.12]	[1.14]	[54.76]	
VAR	[-0.93]	[2.29]	[0.00]		[-1.02]	[1.36]	[0.00]		[-1.27]	[-1.28]	[0.10]		[-1.29]	[-2.77]	[0.00]		[-1.36]	[2.06]	[0.00]		[-1.38]	[1.07]	[0.00]	
3	-0.85	2.32	6.21	7.67	-0.85	1.32	3.29	3.61	-1.19	-0.55	2.02	4.09	-1.17	-1.43	2.60	9.56	-0.96	2.08	5.00	5.95	-0.94	1.07	2.55	3.04
NW	[-1.28]	[1.97]	[6.95]		[-1.29]	[1.12]	[37.44]		[-1.42]	[-0.52]	[62.70]		[-1.38]	[-1.39]	[50.55]		[-1.45]	[1.97]	[15.12]		[-1.42]	[1.02]	[51.55]	
VAR	[-1.18]	[2.32]	[0.00]		[-1.24]	[1.24]	[0.10]		[-1.78]	[-0.95]	[0.00]		[-1.65]	[-2.28]	[0.00]		[-1.61]	[1.92]	[0.00]		[-1.57]	[0.98]	[0.00]	
6	-1.24	2.19	8.02	14.47	-1.24	1.19	5.27	8.38	-1.72	-0.21	3.30	9.00	-1.69	-1.09	3.10	14.80	-1.32	2.17	7.59	13.67	-1.29	1.17	4.47	8.64
NW	[-1.98]	[1.89]	[1.86]		[-1.98]	[1.03]	[12.82]		[-1.71]	[-0.26]	[37.38]		[-1.67]	[-1.32]	[40.92]		[-2.00]	[2.33]	[2.60]		[-1.96]	[1.25]	[20.53]	
VAR	[-1.92]	[2.18]	[0.00]		[-1.76]	[1.15]	[0.00]		[-2.78]	[-0.40]	[0.00]		[-2.73]	[-1.73]	[0.00]		[-2.25]	[2.08]	[0.00]		[-2.22]	[1.09]	[0.00]	
12	-1.46	1.70	29.77	24.60	-1.47	0.71	24.75	16.79	-1.92	0.03	9.30	17.66	-1.86	-0.87	6.91	23.94	-1.51	1.67	17.74	23.96	-1.45	0.65	13.53	17.51
NW	[-4.60]	[1.65]	[0.00]		[-4.59]	[0.68]	[0.00]		[-2.72]	[0.03]	[0.66]		[-2.61]	[-1.01]	[4.29]		[-3.88]	[2.44]	[0.00]		[-3.67]	[0.97]	[0.01]	
VAR	[-2.48]	[1.60]	[0.00]		[-2.44]	[0.77]	[0.00]		[-4.11]	[-0.05]	[0.00]		[-4.11]	[-1.53]	[0.00]		[-2.76]	[1.64]	[0.00]		[-2.78]	[0.64]	[0.00]	

Notes: This table reports results of forecasting regressions for average excess returns and average exchange rate changes for baskets of currencies at horizons of one, two, three, six and twelve months. For each basket we report the R^2, and the slope coefficients in the time-series regression of the log currency excess return on the 12-month change in the U.S. Industrial Production Index orthogonalized with respect to the world average Industrial Production (ψ_{IP}) and on the average log forward discount ($\psi_{\mathbf{f}}$), and similarly the slope coefficients ζ_{IP}, $\zeta_{\mathbf{f}}$ and the R^2 for the regressions of average exchange rate changes. The *t*-statistics for the slope coefficients in brackets are computed using the following methods. *NW* denotes Newey and West (1987) standard errors computed with the optimal number of lags following Andrews (1991). The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag. Data are monthly, from Barclays and Reuters (available via Datastream). The returns do not take into account bid-ask spreads. The sample period is 11/1983–6/2010.

Table XV: Forecasting Excess Returns with Average Forward Discounts — Foreign Investors

k	$\kappa_{\mathbf{f}}$	R^2	$\zeta_{\mathbf{f}}$	R^2	$\kappa_{\mathbf{f}}$	R^2	$\zeta_{\mathbf{f}}$	R^2	$\kappa_{\mathbf{f}}$	R^2	$\zeta_{\mathbf{f}}$	R^2	$\kappa_{\mathbf{f}}$	R^2	$\zeta_{\mathbf{f}}$	R^2
	UK				**Canada**				**Switzerland**				**Japan**			
1	2.73	2.70	1.73	1.10	3.63	2.91	2.63	1.55	0.77	0.42	-0.23	0.04	1.27	0.28	0.27	0.01
NW	[2.46]		[1.56]		[3.02]		[2.19]		[1.16]		[-0.36]		[1.00]		[0.21]	
VAR	[2.83]		[1.87]		[2.91]		[2.01]		[1.07]		[-0.30]		[0.89]		[0.24]	
2	2.69	3.96	1.68	1.59	3.78	5.15	2.78	2.85	1.12	1.57	0.12	0.02	0.77	0.13	-0.23	0.01
NW	[3.36]		[2.11]		[2.52]		[1.85]		[1.07]		[0.12]		[0.39]		[-0.11]	
VAR	[1.99]		[1.27]		[2.10]		[1.57]		[0.92]		[0.01]		[0.32]		[-0.11]	
3	2.32	4.05	1.32	1.34	3.27	5.11	2.27	2.53	0.97	1.55	-0.03	0.00	0.49	0.07	-0.51	0.07
NW	[2.93]		[1.67]		[1.91]		[1.33]		[0.86]		[-0.03]		[0.23]		[-0.25]	
VAR	[1.90]		[1.18]		[1.94]		[1.36]		[0.67]		[-0.04]		[0.16]		[-0.24]	
6	1.90	4.74	0.90	1.10	2.74	5.40	1.74	2.25	0.84	1.98	-0.16	0.08	0.65	0.19	-0.35	0.05
NW	[2.29]		[1.08]		[1.79]		[1.14]		[0.65]		[-0.13]		[0.31]		[-0.17]	
VAR	[1.74]		[0.84]		[1.91]		[1.19]		[0.88]		[-0.09]		[0.30]		[-0.22]	
12	1.79	6.75	0.78	1.38	2.76	9.20	1.76	3.95	1.05	5.24	0.05	0.01	1.52	1.58	0.54	0.20
NW	[2.74]		[1.20]		[3.24]		[2.06]		[0.84]		[0.04]		[0.73]		[0.26]	
VAR	[1.31]		[0.64]		[2.17]		[1.32]		[1.33]		[0.22]		[0.59]		[0.19]	

Notes: This table reports the constant, slope coefficient and R^2 in predictability tests of currency excess returns. We take the perspective of foreign investors in the UK, Canada, Switzerland and Japan in forming the baskets of currencies. For each home country, we use the corresponding Average Forward Discount formed from the perspective of the giving country's investor. The t-statistics for the slope coefficients in brackets are computed using the following methods. *NW* denotes Newey and West (1987) standard errors computed with the optimal number of lags following Andrews (1991). The *VAR*-based statistics are adjusted for the small sample bias using the bootstrap distributions of slope coefficients under the null hypothesis of no predictability, estimated by drawing from the residuals of a VAR with the number of lags equal to the length of overlap plus one lag.

Table XVI: Out-of-Sample Return and Exchange Rate Predictability: Comparison with a Random Walk

		Excess Returns					Exchange Rate Changes			
$Horizon$	$RMSE_{RW}$	$RMSE$	$Ratio$	MSE_t	ENC	$RMSE_{RW}$	$RMSE$	$Ratio$	MSE_t	ENC
					Panel A: IP					
1	2.41	2.41	1.00	0.06	1.09	2.39	2.39	1.00	0.04	0.82
			(0.13)	(0.15)	(0.09)			(0.14)	(0.15)	(0.13)
2	3.69	3.63	1.01	0.51	2.20	3.64	3.59	1.01	0.61	1.98
			(0.04)	(0.16)	(0.05)			(0.04)	(0.13)	(0.07)
3	4.63	4.53	1.02	0.54	2.60	4.55	4.45	1.02	0.66	2.34
			(0.04)	(0.19)	(0.06)			(0.04)	(0.17)	(0.09)
6	7.17	7.05	1.02	0.25	3.45	6.98	6.82	1.02	0.40	3.07
			(0.16)	(0.35)	(0.09)			(0.10)	(0.30)	(0.11)
12	10.38	9.63	1.08	1.13	5.87	9.74	8.97	1.09	1.33	5.24
			(0.05)	(0.22)	(0.04)			(0.05)	(0.19)	(0.06)
					Panel B: IP and AFD					
1	2.41	2.40	1.01	0.41	1.56	2.39	2.39	1.00	-0.16	0.57
			(0.05)	(0.08)	(0.04)			(0.21)	(0.20)	(0.22)
2	3.69	3.62	1.02	0.79	2.65	3.64	3.61	1.01	0.48	1.75
			(0.04)	(0.09)	(0.03)			(0.11)	(0.14)	(0.12)
3	4.63	4.46	1.04	1.11	3.55	4.55	4.45	1.02	0.76	2.46
			(0.02)	(0.07)	(0.02)			(0.07)	(0.14)	(0.10)
6	7.17	6.79	1.06	0.92	4.04	6.98	6.78	1.03	0.54	2.94
			(0.05)	(0.19)	(0.07)			(0.14)	(0.28)	(0.19)
12	10.38	9.27	1.12	1.85	6.25	9.74	9.29	1.05	0.82	4.30
			(0.05)	(0.13)	(0.05)			(0.18)	(0.31)	(0.17)
					Panel C: AFD					
1	2.41	2.39	1.01	0.70	1.90	2.39	2.39	1.00	0.19	0.95
			(0.02)	(0.09)	(0.02)			(0.15)	(0.20)	(0.11)
2	3.69	3.65	1.01	0.53	2.43	3.64	3.64	1.00	0.04	1.25
			(0.06)	(0.15)	(0.04)			(0.27)	(0.28)	(0.16)
3	4.63	4.53	1.02	0.80	3.36	4.55	4.53	1.00	0.27	1.94
			(0.04)	(0.12)	(0.02)			(0.20)	(0.26)	(0.13)
6	7.17	6.95	1.03	0.81	4.12	6.98	6.94	1.01	0.21	2.45
			(0.08)	(0.20)	(0.05)			(0.29)	(0.36)	(0.18)
12	10.38	9.40	1.10	2.20	6.11	9.74	9.40	1.04	1.34	3.90
			(0.03)	(0.09)	(0.03)			(0.15)	(0.21)	(0.16)

Notes: This table reports one-step-ahead out-of-sample predictability test statistics. We first assume that the average changes in exchange rates against the U.S. dollar for the developed markets basket follow a random walk with drift. $RMSE_{RW}$ denotes the corresponding square root of the mean squared error (in percentages). We then use the twelve-month change in the industrial production index (IP) and/or average forward discount for the same basket (AFD) to predict changes in exchange rates $RMSE$ denotes the corresponding square root of the mean squared error (in percentages). We add three test statistics: the ratio of the two square root mean squared errors ($Ratio = RMSE_{RW}/RMSE$), the Diebold-Mariano (MSE_t) and the Clark-McCraken (ENC) statistics. Each model is estimated recursively. Using information up to date t, we use the model to predict the changes in exchange rates between t and $t+k$, for $k = 1, 2, 3, 6$, and 12 months. We use at least half of the sample to estimate the model. *P*-values for the test statistics reported in the parentheses are computed via bootstrap under the null hypothesis of no predictability. They are obtained from bootstrapping the whole procedure assuming a VAR with the number of lags equal to the horizon of forward discount for the predictor variable. Panel A uses the industrial production as predictor, Panel B uses both IP and the average forward discount across developed countries currencies, and Panel C uses only the AFD. Data are monthly, obtained from Datastream. The sample period is 11/1983 - 06/2010.