

Data Appendix

This appendix describes the details of data construction and the robustness of empirical results.

5.1 Pairwise Returns

To show that the trading strategies are both unconditional in nature, and not driven by any one currency pair, we present the returns of currency pairs for each combination of short a final good producer currency and long a commodity country currency, as well as portfolios of all commodity countries or all producer countries. Table A-1 shows the results.

5.2 Classification of goods

We assign individual goods to “Basic” (input) and “Complex” (finished) groups based on the descriptions of 4-digit SITC (Revision 4) categories available from the U.N. Table A-2 lists classifications aggregated at a 2-digit SITC level, with the number of 4-digit sub-categories falling into each of the two groups. Detailed breakdown is available upon request.

5.3 Currency strategies and transaction costs

We investigate the effect of transaction costs on the profitability of trading strategies based on the combined export/import sort. We use bid-ask quotes for forward and spot exchange rates from Reuters. Lyons (2001) reports that bid and ask quotes published by Reuters imply bid-ask spreads that are approximately twice as large as actual inter-dealer spreads. We assume that net excess returns take place at these quotes. As a result, our estimates of the transaction

Table A-1: Pairwise Currency Strategy Returns

Long Leg		Short Leg				Producer
		Europe / Germany	Japan	Sweden	Switzer- land	Country Portfolio
Australia	Return	3.90	5.22*	3.20	4.25	4.14*
	SE	(2.41)	(3.10)	(2.34)	(2.68)	(2.33)
	SR	0.09	0.10	0.08	0.09	0.10
Canada	Return	1.82	3.14	1.12	2.17	2.06
	SE	(2.21)	(2.71)	(2.16)	(2.47)	(2.04)
	SR	0.05	0.07	0.03	0.05	0.06
Norway	Return	2.14*	3.46	1.44	2.49	2.38*
	SE	(1.23)	(2.66)	(1.36)	(1.62)	(1.31)
	SR	0.10	0.07	0.06	0.09	0.11
New Zealand	Return	3.77*	5.09*	3.07	4.12*	4.01*
	SE	(2.18)	(2.89)	(2.22)	(2.35)	(2.08)
	SR	0.10	0.10	0.08	0.10	0.11
Commodity Country Portfolio	Return	2.91*	4.22	2.21	3.26*	3.15**
	SE	(1.64)	(2.56)	(1.64)	(1.96)	(1.54)
	SR	0.10	0.10	0.08	0.10	0.12

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Excess mean returns and Sharpe ratios on pairwise and portfolio trading strategies for G10 commodity and final producer currencies. Returns are calculated using monthly forward returns for a strategy going long a commodity country currency of Australia, Canada, Norway, and New Zealand (or an equal weighted portfolio of all four), and short a producer country currency of Europe (or the German Deutschmark Pre-1999), Japan, Sweden, and Switzerland (or an equal weighted portfolio). White (1980) standard errors in parentheses. Data is 1988 to 2012, and returns do not include transaction costs.

Table A-2: COMTRADE Goods Classification

SITC	Description	Sub-categories classified as	
		Basic	Complex
00	Live animals	13	2
01	Meat and meat preparations	14	0
02	Dairy products and eggs	10	0
03	Fish and fish preparations	12	0
04	Cereals and cereal preparations	24	0
05	Fruit and vegetables	25	1
06	Sugar, sugar preparations and honey	4	4
07	Coffee, tea, cocoa, spices and manufacs. thereof	10	5
08	Feed. Stuff for animals excl. Unmilled cereals	6	0
09	Miscellaneous food preparations	5	0
11	Beverages	0	7
12	Tobacco and tobacco manufactures	4	4
21	Hides, skins and fur skins, undressed	9	0
22	Oil seeds, oil nuts and oil kernels	14	0
23	Crude rubber including synthetic and reclaimed	5	0
24	Wood, lumber and cork	14	0
25	Pulp and paper	0	7
26	Textile fibres, not manufactured, and waste	32	0
27	Crude fertilizers and crude minerals, nes	23	0
28	Metalliferous ores and metal scrap	22	0
29	Crude animal and vegetable materials, nes	11	0
32	Coal, coke and briquettes	8	0
33	Petroleum and petroleum products	2	11
34	Gas, natural and manufactured	0	4
35	Electric energy	0	2
41	Animal oils and fats	3	0
42	Fixed vegetable oils and fats	14	0
43	Animal and vegetable oils and fats, processed	5	0
51	Chemical elements and compounds	0	28
52	Crude chemicals from coal, petroleum and gas	0	14
53	Dyeing, tanning and colouring materials	0	11
54	Medicinal and pharmaceutical products	0	8
55	Perfume materials, toilet and cleansing preptions	0	9
56	Fertilizers, manufactured	0	5
57	Explosives and pyrotechnic products	0	4
58	Plastic materials, etc.	0	28
59	Chemical materials and products, nes	0	13
61	Leather, lthr. Manufs., nes and dressed fur skins	9	5
62	Rubber manufactures, nes	2	10
63	Wood and cork manufactures excluding furniture	2	12
64	Paper, paperboard and manufactures thereof	0	15
65	Textile yarn, fabrics, made up articles, etc.	0	58
66	Non metallic mineral manufactures, nes	0	39
67	Iron and steel	8	26
68	Non ferrous metals	26	0
69	Manufactures of metal, nes	0	32
71	Machinery, other than electric	0	25
72	Electrical machinery, apparatus and appliances	0	36
73	Transport equipment	0	10
81	Sanitary, plumbing, heating and lighting fixt.	0	4
82	Furniture	0	4
83	Travel goods, handbags and similar articles	0	2
84	Clothing	0	35
85	Footwear	0	2
89	Miscellaneous manufactured articles, nes	0	39
94	Animals, nes, incl. Zoo animals, dogs and cats	2	0
95	Firearms of war and ammunition therefor	0	2

Each row represents a 2-digit Standard International Trade Classification category according to SITC Rev. 4. The classification columns show the number of 4-digit sub-categories classified as each type of good (Basic or Complex). Descriptions are from the United Nations Statistics Division.

costs are conservative, at least from the standpoint of a large financial institution. Since our strategy is based on sorting currencies using trade data that is available at annual frequency, a natural approach for minimizing the transaction costs is to use one-year forward contracts. Therefore, we compute returns on rolling one-year forward contracts, but in order to avoid the arbitrary choice of the starting month, we construct the portfolio returns at monthly frequency (i.e., using overlapping yearly returns). Table A-3 lists the average depreciation of the currencies in each portfolio, average (log) forward discount, and average excess returns with and without bid-ask spreads applied.

5.4 Panel Regressions of Currency Returns

As an alternative to the currency sorts presented in the main text, here we provide OLS regressions of currency returns and forward discounts on explanatory variables. We compare the explanatory power of our Import Ratio to GDP for both returns and discounts. Table A-4 shows the results. Panel A shows the results of an OLS regression of yearly currency returns on Import Ratios and GDP, as well as on lagged forward discounts for the full sample (1988 to 2012) with year fixed effects. Panel B shows the results of a single cross sectional regression of average currency returns during the post-Euro sample (1999 to 2012) on the 1999 Import Ratio and GDP, as well as on the average interest rate over the first half of the sample. Panel C shows results of a regression of yearly forward discounts for the full sample on the Import Ratio and GDP again with year fixed effects. Panel D shows the results of a regression of average post-Euro forward discounts on 1999 Import Ratio and GDP as well as average interest rates in the first half of the sample.

Table A-3: One-Year Returns on Import/Export Sorted Portfolios, All Countries

<i>Portfolio</i>	1	2	3	4	5	6
Spot Change: Δs^j (without b-a)						
<i>Mean</i>	0.08	-0.37	-1.03	0.37	1.33	-0.50
<i>Std</i>	6.77	9.90	9.36	8.87	9.19	9.14
Forward Discount: $f^j - s^j$						
<i>Mean</i>	-0.48	1.29	1.15	1.99	2.19	2.23
<i>Std</i>	1.87	2.19	2.39	2.29	1.32	1.63
Log Excess Return: rx^j (without b-a)						
<i>Mean</i>	-0.56	1.66	2.18	1.61	0.86	2.73
<i>Std</i>	7.29	9.93	9.15	8.99	9.45	9.18
<i>SR</i>	-0.08	0.17	0.24	0.18	0.09	0.30
Excess Return: rx^j (without b-a)						
<i>Mean</i>	0.01	2.32	2.80	2.29	1.62	3.38
<i>Std</i>	7.09	9.93	9.42	8.87	9.80	9.39
<i>SR</i>	0.00	0.23	0.30	0.26	0.17	0.36
Net Excess Return: rx_{net}^j (with b-a)						
<i>Mean</i>	0.27	2.07	2.61	2.08	1.40	3.17
<i>Std</i>	7.16	9.93	9.39	8.84	9.78	9.38
<i>SR</i>	0.04	0.21	0.28	0.24	0.14	0.34
High-minus-Low: rx_{net}^j (without b-a)						
<i>Mean</i>		2.31	2.79	2.28	1.61	3.37
<i>Std</i>		6.57	6.58	5.93	7.59	6.96
<i>SR</i>		0.35	0.42	0.38	0.21	0.48
High-minus-Low: $rx_{net}^j - rx_{net}^1$ (with b-a)						
<i>Mean</i>		1.80	2.34	1.81	1.13	2.90
<i>Std</i>		6.58	6.58	5.95	7.60	6.92
<i>SR</i>		0.27	0.36	0.30	0.15	0.42

Note: Portfolios are rebalanced annually. Reported returns are sampled monthly with overlap. Sample is 1/1988-12/2012.

Table A-4: Regressions of Returns and Discounts on Import Ratio and GDP

	Panel A: Yearly Excess Currency Returns		Panel B: Post Euro Average Returns	
Import Ratio	0.716** (0.340)	0.156 (0.371)	1.122*** (0.312)	0.915*** (0.318)
Log GDP Ratio	-0.351 (0.273)	0.0525 (0.290)	-0.613** (0.236)	-0.373 (0.216)
Lagged Forward Discount		0.603*** (0.129)		
Pre-Euro Interest Rate				0.0887** (0.0349)
R^2	0.009	0.010	0.392	0.480
N	494	494	22	22
	Panel C: Yearly Forward Discounts		Panel D: Post Euro Average Discounts	
Import Ratio	0.974*** (0.0689)	0.822*** (0.0715)	1.056** (0.433)	0.884* (0.464)
Log GDP Ratio	-0.571*** (0.0967)	-0.349*** (0.110)	-0.542* (0.313)	-0.117 (0.296)
Pre-Euro Interest Rate				0.160*** (0.0478)
R^2	0.108	0.128	0.229	0.270
N	494	494	22	22

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

OLS regressions with robust standard errors in parentheses. In Panel A the dependent variable is yearly returns from 1-year forward contracts for each country, and the independent variables the rolling averages of the previous 4 years of the Import Ratio and the Log GDP Ratio, as well as the lagged Forward Discount. In Panel B the dependent variable is the average yearly return for the post-Euro sample (1999 to 2012), and the independent variables are the average import ratio, GDP ratio, and interest rate for the pre-Euro (1988 to 1999) sample. In Panel C the dependent variable is the yearly forward discount on 1-year contracts and the yearly Import Ratio and Log GDP Ratio as in Panel A. In Panel D the dependent variable is the average yearly discount for the post-Euro sample, and the independent variables are as in Panel B. Panels A and C include yearly fixed effects. Log GDP Ratio is defined as the log of the ratio of each countries' yearly GDP to the GDP of the United States. Import Ratio is as defined in Table 1 of the text.