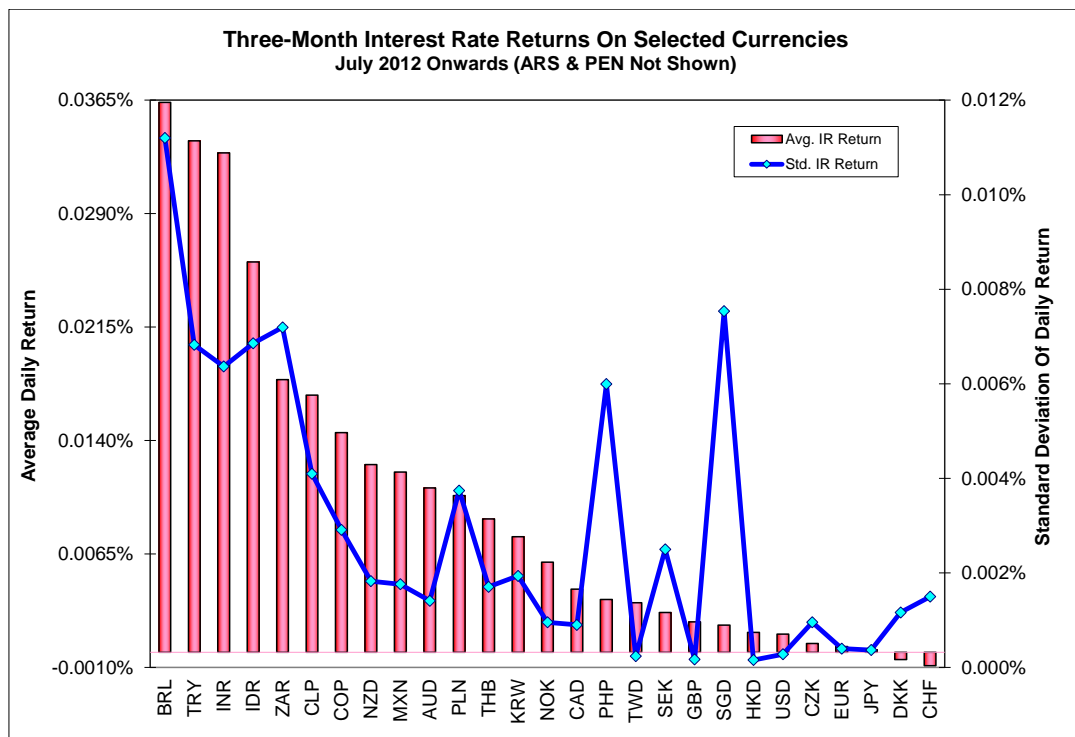


While it has been only two days since the European Central Bank hinted at a possible expansion of QE, the EUR has broken out of a secondary uptrend channel extending back to its March low. Let's update the status of the euro carry trade into a set of 28 currencies for a data sample beginning with the July 2012 "whatever it takes" statement by Mario Draghi.

The average daily returns and their standard deviations for these currencies' short-term interest rate return indices are presented below. The PEN has been excluded from the chart below as the data series is unavailable. The ARS has been excluded from the chart as its average daily interest rate return of 0.1413% would distort the scale; the ARS is excluded from other charts below as its official currency rates bear no resemblance to the actual market rates.

Few anomalies are visible in the chart below outside of the high volatility of Filipino and Singaporean short-term interest rates. Average daily interest rate returns for the JPY, DKK and CHF have been lower than those for the EUR since July 2012. The highest average daily interest rate returns include major emerging markets such as Brazil, Turkey, India and Indonesia.



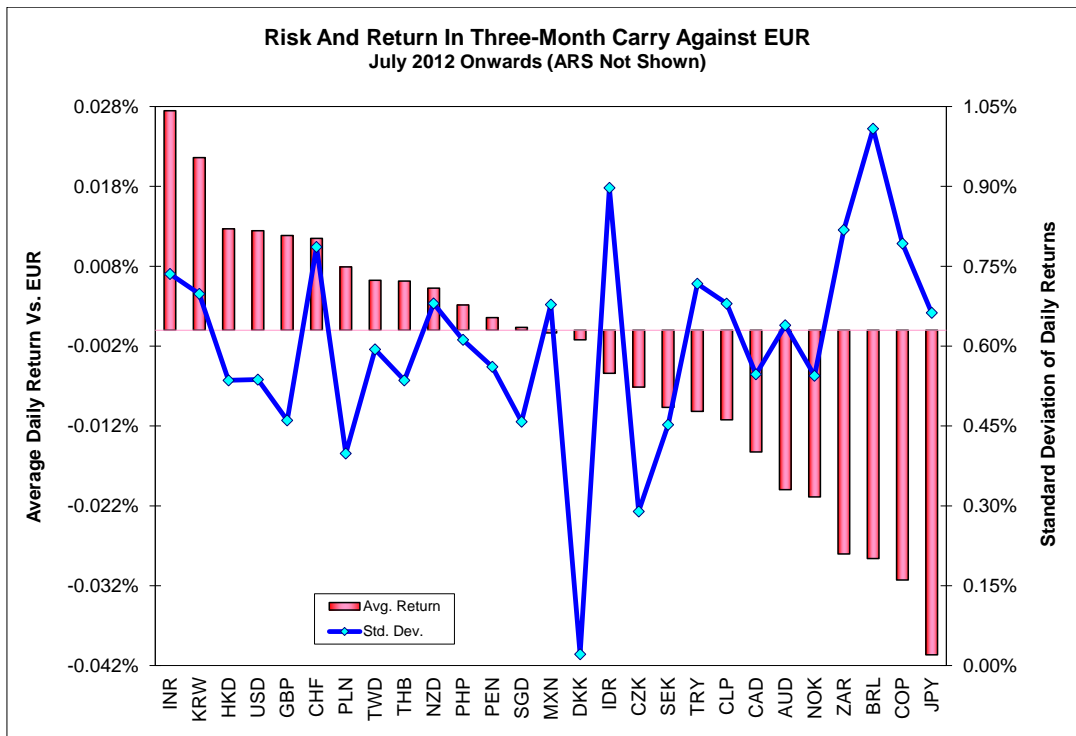
A correlation matrix of these returns reveals a great deal of dispersion between positive (green cells, blue font) and negative values (yellow cells, red font) for nearly all currencies involved.

Correlation Of Three-Month Interest Rate Total Returns Since July 2012

	ARS	AUD	BRL	CAD	CHF	CLP	COP	CZK	DKK	EUR	GBP	HKD	IDR	INR	JPY	KRW	MXN	NOK	NZD	PEN	PHP	PLN	SEK	SGD	THB	TRY	TWD	USD	ZAR		
ARS	1.00																														
AUD	-0.12	1.00																													
BRL	-0.10	-0.76	1.00																												
CAD	0.14	0.46	-0.42	1.00																											
CHF	0.33	0.54	-0.63	0.64	1.00																										
CLP	0.12	0.52	-0.72	0.23	0.49	1.00																									
COP	-0.11	0.41	-0.13	0.11	-0.02	0.15	1.00																								
CZK	0.10	0.67	-0.70	0.37	0.48	0.63	0.40	1.00																							
DKK	0.30	0.47	-0.50	0.56	0.85	0.39	-0.06	0.37	1.00																						
EUR	0.31	0.25	-0.39	0.50	0.64	0.31	-0.23	0.37	0.57	1.00																					
GBP	-0.26	0.03	0.49	-0.19	-0.37	-0.36	0.44	-0.12	-0.26	-0.44	1.00																				
HKD	0.02	0.35	-0.46	0.18	-0.34	0.47	0.10	0.38	0.23	0.23	-0.19	1.00																			
IDR	0.17	-0.50	0.60	-0.06	-0.20	-0.48	-0.20	-0.44	-0.09	0.03	0.19	-0.31	1.00																		
INR	0.05	0.12	-0.21	0.23	0.30	0.18	-0.13	0.15	0.22	0.28	-0.20	0.42	0.00	1.00																	
JPY	0.11	0.48	-0.74	0.42	0.62	0.63	-0.10	0.56	0.50	0.58	-0.50	0.49	-0.38	0.38	1.00																
KRW	0.38	0.41	-0.55	0.39	0.58	0.46	-0.08	0.46	0.50	0.58	-0.32	0.30	-0.14	0.27	0.61	1.00															
MXN	-0.07	0.57	-0.74	0.08	0.35	0.70	0.26	0.66	0.28	0.26	-0.27	0.48	-0.57	0.11	0.63	0.40	1.00														
NOK	0.04	0.77	-0.82	0.66	0.77	0.58	0.16	0.68	0.64	0.63	-0.30	0.43	-0.38	0.32	0.75	0.60	0.56	1.00													
NZD	-0.26	-0.39	0.67	-0.07	-0.47	-0.71	0.02	-0.57	-0.42	-0.41	0.42	-0.47	0.42	-0.15	-0.67	-0.56	-0.79	-0.49	1.00												
PEN																				1.00											
PHP	-0.34	-0.32	0.63	-0.46	-0.55	-0.45	0.09	-0.42	-0.42	-0.50	0.57	-0.31	0.20	-0.26	-0.55	-0.62	-0.31	-0.59	0.44	1.00											
PLN	-0.06	0.88	-0.84	0.42	0.54	0.63	0.35	0.75	0.47	0.37	-0.14	0.45	-0.51	0.17	0.63	0.54	0.77	0.82	-0.61	-0.45	1.00										
SEK	0.18	0.79	-0.88	0.52	0.74	0.73	0.20	0.79	0.61	0.60	-0.33	0.51	-0.47	0.28	0.80	0.69	0.72	0.90	-0.72	-0.62	0.88	1.00									
SGD	-0.03	-0.08	0.05	-0.08	-0.10	-0.08	-0.02	-0.06	-0.09	-0.08	0.05	-0.03	0.03	-0.14	-0.10	-0.02	-0.05	-0.10	0.05	0.07	-0.07	-0.09	1.00								
THB	0.14	0.67	-0.88	0.44	0.61	0.65	0.06	0.62	0.47	0.44	-0.53	0.52	-0.46	0.49	0.73	0.56	0.60	0.76	-0.58	-0.64	0.75	0.82	-0.09	1.00							
TRY	-0.08	-0.61	0.87	-0.32	-0.44	-0.64	-0.18	-0.56	-0.30	-0.16	-0.46	-0.42	0.60	-0.13	-0.59	-0.38	-0.58	-0.63	0.52	0.57	-0.66	-0.70	0.06	-0.78	1.00						
TWD	-0.06	0.05	-0.08	0.04	-0.01	0.06	-0.01	0.05	0.02	0.03	-0.05	0.32	0.07	0.72	0.16	0.05	0.06	0.10	-0.04	-0.05	0.12	0.08	-0.01	0.36	-0.07	1.00					
USD	-0.42	0.12	0.19	-0.42	-0.53	-0.07	0.51	0.05	-0.46	-0.64	0.67	-0.02	-0.17	-0.28	-0.36	-0.37	-0.19	-0.33	0.09	0.51	0.09	-0.22	0.06	-0.30	0.11	-0.03	1.00				
ZAR	-0.39	-0.34	0.78	-0.22	-0.51	-0.69	0.13	-0.51	-0.38	-0.43	0.71	-0.46	0.44	-0.24	-0.74	-0.59	-0.64	-0.55	0.78	0.66	-0.53	-0.72	0.07	-0.74	0.72	-0.08	0.37	1.00			

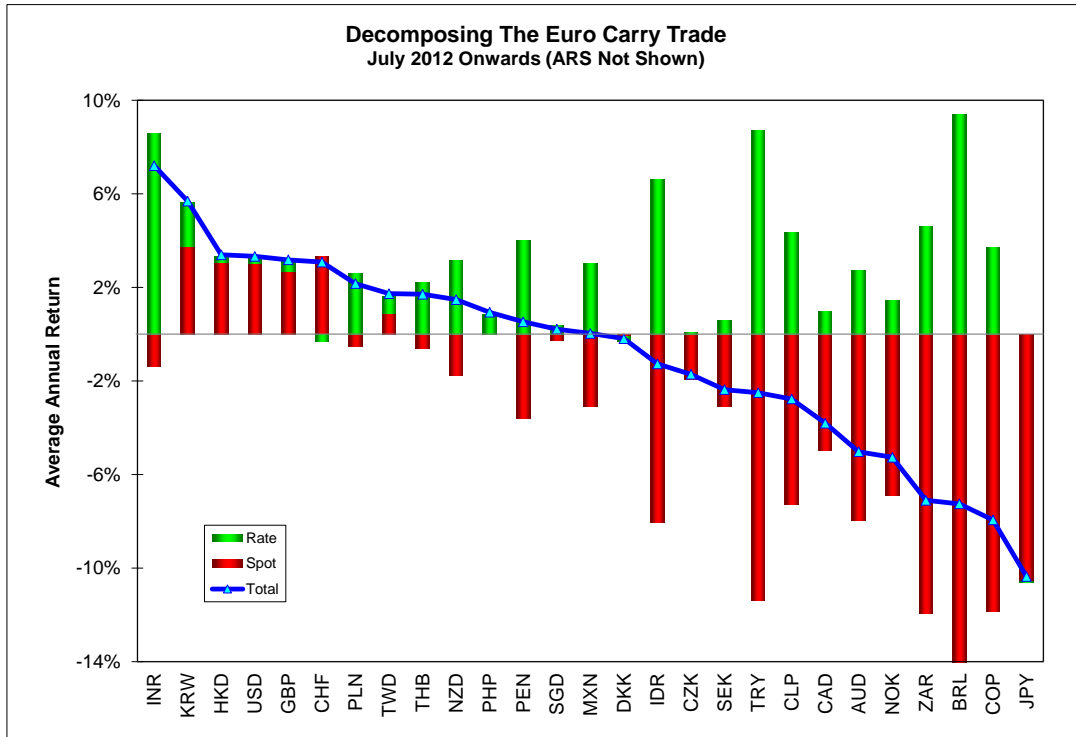
The Euro Carry

Now let's examine the total return from the carry trade of borrowing three-month EUR and lending the proceeds in the other 27 currencies. The highest average total returns are seen for the INR, KRW, HKD, USD, GBP and CHF. Thirteen carry trade returns beginning with the DKK and moving rightward on the X-axis are negative. Any engineered weakness in the EUR would invite carry trades into currencies with large receiving capacities such as the CAD, AUD, NOK, BRL and JPY.



Total carry returns can be decomposed into spot rate and interest rate components. Of the thirteen currencies with negative average annual carry returns, only three currencies, the CHF, JPY and the pegged DKK have had negative interest rate carries.

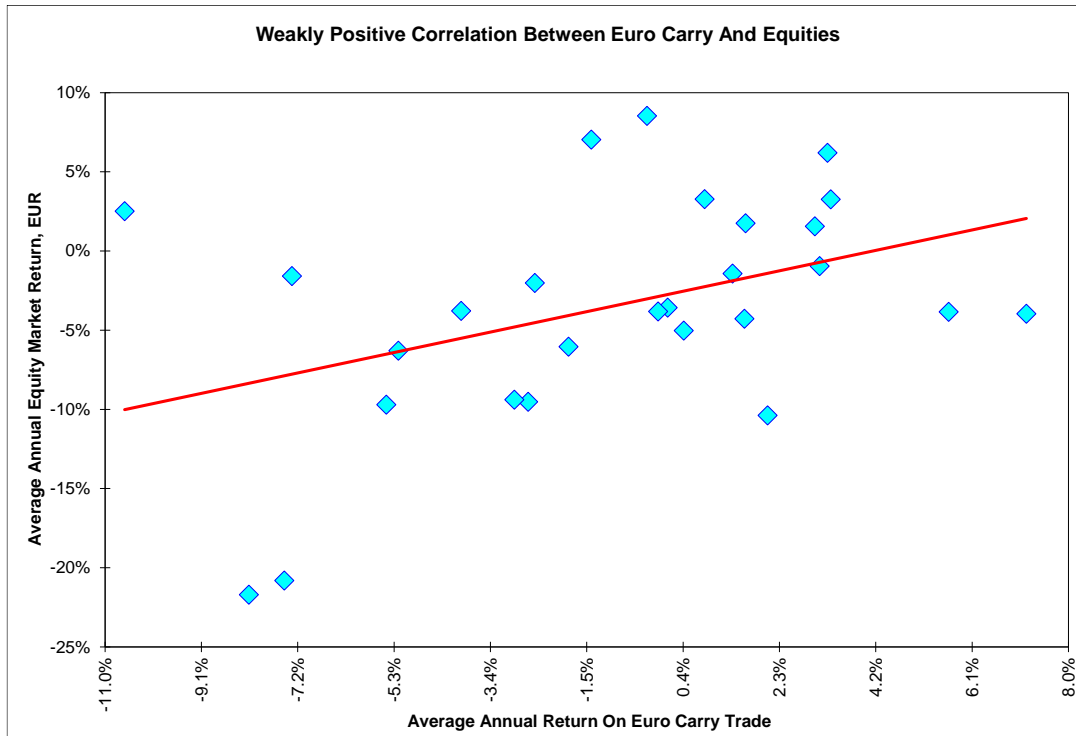
Seven currencies with positive average annual carry returns, the INR, PLN, THB, NZD, PEN, SGD and MXN, have had negative spot rate returns. The CHF is the only currency with a positive average annual carry return and a negative interest rate return over this period; this is a direct result of the history of franc ceiling imposition.



The Euro Carry And Equities

We should ask how these components of carry affect equity markets. We can map average annual stock market returns in EUR terms for each country against the total euro carry trade and both of its components.

First, let's map the returns against the entire carry trade. The beta has increased sharply since May 2015, from 0.337 to 0.679. This suggests an expansion of the euro carry trade would have a positive effect on global equity returns.



This increasingly positive correlation at the total return level reflects the blend of its two components: The betas to the interest rate spread and spot rate components of the euro carry trade are -1.234 and 0.747, respectively. While downward convergence of short-term rates globally limits the impact of the interest rate component, the spot rate component can exert an increasingly strong influence on the total carry trade return and, by extension, on global equity returns.

