Correlation of Balance of Trade to Exchange Rate Variations
vs. Population Density Disparity
Total Trade, 1990-2008

Country	Ratio to U.S. Pop. Density	Exchange Rate Correlation(1) (Year-by-year analysis)	Exchange Rate Correlation (2) (Total Period)
Australia	0.08	0.67	X
Brazil	0.67	0.62	
Canada	0.09	0.5	
China	4.22	0	
Colombia	1.21	0.38	X
France	3.38	0.61	
Germany	7.06	0.44	
India	10.22	0.53	X
Japan	10.33	0.39	X
Mexico	1.66	0.33	
Netherlands	11.88	0.61	X
Saudi Arabia	0.35	0	
Singapore	201.25	0.44	X
South Korea (3)	14.79	0.6	
Taiwan	19.22	0.6	
United Kingdom	7.45	0.56	
Venezuela	0.89	0.56	X
Average	< 1.0	0.47	**2 out of 5**
Average	> 1.0	0.46	**5 out of 12**

Notes:

1. This is the percentage of years in which the total balance of trade
   responded as exchange rate theory would predict.
   That is, did the U.S. Balance of trade improve when the
   dollar weakened, fall when the dollar strengthened or remain about the same
   when the exchange rate remained stable?
2. An "X" in this column indicates that the balance of trade for the total period from
   1990 through 2008 responded as economic theory would predict, worsening
   in response to a stronger dollar or improving in response to a weaker dollar.
3. South Korea data affected by de-pegging of Korean won to the dollar in 1997 and
   the ensuing East Asian financial crisis, during which South Korea was one of the.
   hardest hit, along with Thailand and Indonesia.

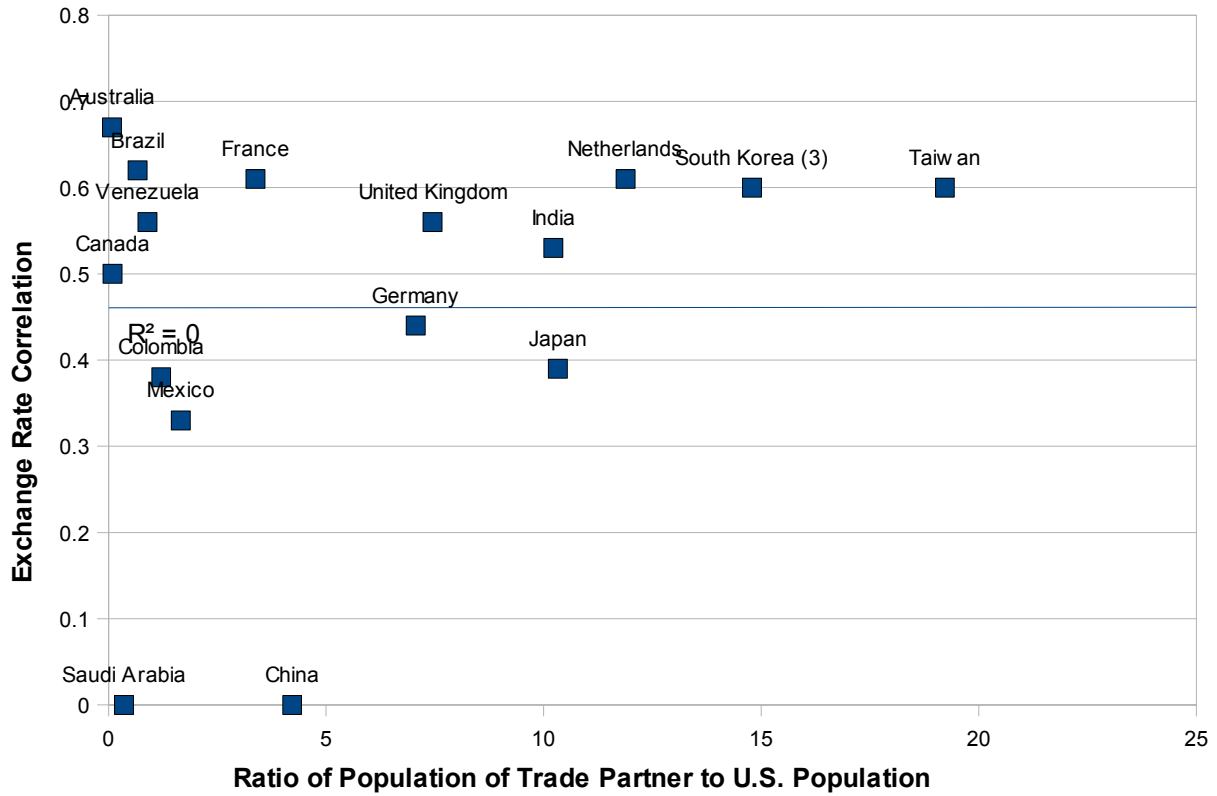**Correlation of Balance of Trade to Exchange Rate Variations**
vs. Population Density Disparity
Manufactured Products, 2001-2009 (Data not available prior to 2001)

| Country	Ratio to U.S. Pop. Density	Exchange Rate Correlation(1) (Year-by-year analysis)	Exchange Rate Correlation (2) (Total Period)	Pop. Density Theory Correlation (3) (2004-2008 Total Balance)
Australia	0.08	0.71	X	X
Brazil	0.67	0.86	X	X
Canada	0.09	0.57	X	X
China	4.22	0		X
Colombia	1.21	0.86		
France	3.38	0.57	X	X
Germany	7.06	0.43		X
India	10.22	0.57	X	X
Japan	10.33	0.57	X	X
Mexico	1.66	0.29		X
Netherlands (4)	11.88	0.43	X	
Saudi Arabia	0.35	0		X
Singapore (5)	201.25	0.71	X	
South Korea (6)	14.79	0.57	X	X
Taiwan	19.22	0.29		X
United Kingdom	7.45	0.43		X
Venezuela	0.89	0.29		X
Average	< 1.0	0.49	**3 out of 5**	**5 out of 5**
Average	> 1.0	0.48	**6 out of 12**	**9 out of 11 (5)**

Notes:
1. This is the percentage of years in which the total balance of trade
   responded as exchange rate theory would predict.
   That is, did the U.S. Balance of trade improve when the
   dollar weakened, fall when the dollar strengthened or remain about the same
   when the exchange rate remained stable?
2. An "X" in this column indicates that the balance of trade for the total period from
   2001 through 2008 responded as economic theory would predict, worsening
   in response to a stronger dollar or improving in response to a weaker dollar.
3. An "X" in this column indicates that the balance of trade in manufactured products for the 5-year period
   from 2004 through 2008 was as predicted by population density. That is, the U.S.
   had a trade deficit with nations more densely populated and a surplus with those
   less densely populated.
4. South Korea data affected by de-pegging of Korean won to the dollar in 1997 and
   the ensuing East Asian financial crisis, during which South Korea was one of the.
   hardest hit, along with Thailand and Indonesia.
5. The population density theory does not apply to tiny city-states like Singapore.
6. South Korea data affected by de-pegging of Korean won to the dollar in 1997 and
   the ensuing East Asian financial crisis, during which South Korea was one of the.
   hardest hit, along with Thailand and Indonesia.

Exchange Rate Correlation vs. Population Density Ratio for Total Trade Between U.S. & Others

Exchange Rate Correlation vs. Population Density Ratio for Trade in Manf'd Products Between U.S. & Others

R² = 0.02

Exchange Rate Correlation

Ratio of Population Density to U.S. Density
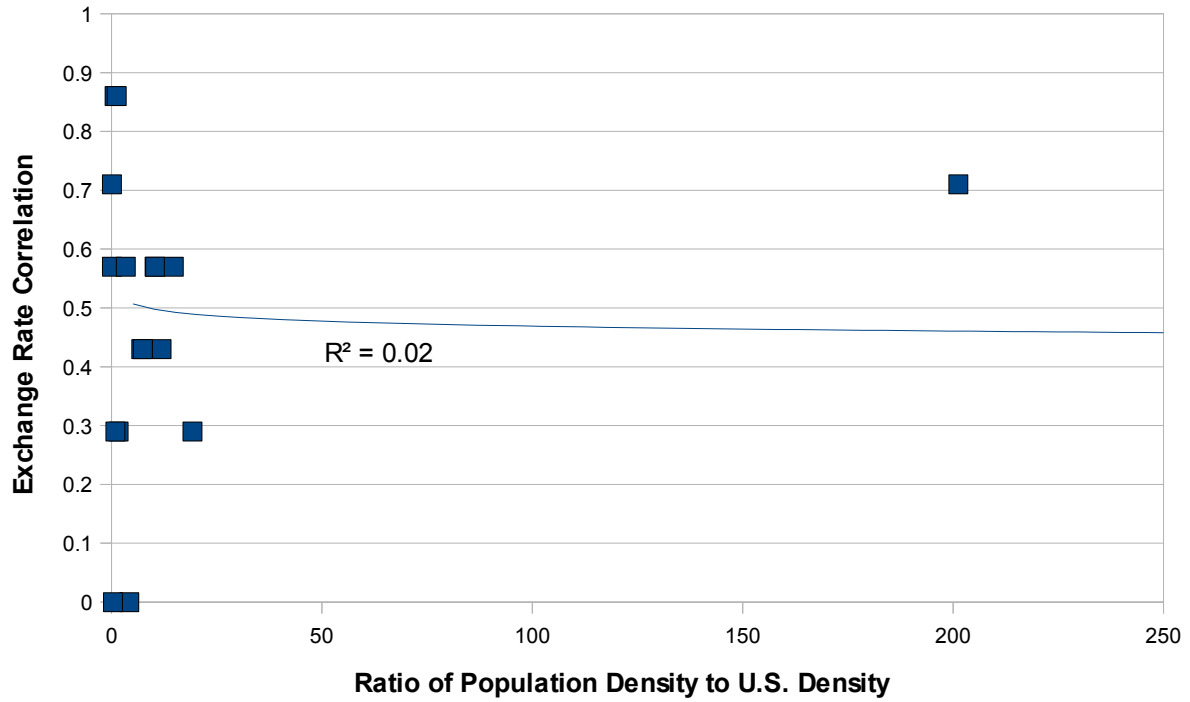
Exchange Rate Correlation vs. Population Density Ratio for Trade in Manf'd Products Between U.S. & Others (Singapore Removed)

f(x) = 0.53 x^-0.07
R² = 0.12

Ratio of Population Density to U.S. Density

Exchange Rate Correlation