Comment—Intervention and the Dollar's Decline

by Owen F. Humpage

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After publication of "Intervention and the Dollar's Decline" in the preceding issue of *Economic Review*, some confusion arose regarding exactly when the exchange-rate quotes in that article were taken and from what market they were derived. This comment will explain the differences and respecifi some of the equations to dispel any misinterpretation.

The daily data for the article were taken from DRI-FACS in August 1987. We understood from reading the DRI-FACS manual that the data series from August 7, 1984 to August 28, 1987 were morning opening exchange-rate quotes from the New York market.

The recently revised DRI-FACS manual (now called DRIFACS PLUS) indicates that after October 8, 1986, the data refer to closing quotes in the London market.[1] We therefore reestimated the equations in tables 3 and 4 of the article to determine if this change had any significant effect on the results.

While some of the point estimates are slightly different under these new estimations. the overall conclusion of the article remains the same: Between August 1984 and August 1987, day-to-day U.S. intervention did not systematically affect day-to-day exchange-rate movements. However, on some occasions, intervention did have a temporary effect on mark-dollar and/or yen-dollar exchange rates.

Statistical tests in the article included U.S. intervention with a one-day lag to avoid problems with bidirectional causality between exchange rates and intervention. Generally, the results are interpreted on the assumption that the effects of U.S. intervention on day $t-1$ occurred between the opening quote on day $t-1$ and the opening quote on day t. After October 8, 1986, however, the data are closing quotes from the London market. Since the New York market opened before the London market closed, U.S. intervention on day $t-1$ could have affected the London closing exchange-rate quote on day $t-1$ and on day t.

To allow for this possibility. we reestimated the relevant equations, including a contemporaneous intervention term. Tables 3A and 4A, which correspond to tables 3 and 4 of the original article. present the results.

1 DRIFACS **PLUS**. the Dictionary of Money Markets and Fixed Income Data. Data Resources. Inc.. February 1988 Data prior to October 8, 1986 are as originally reported

TABLE 3A

87. Intervention

I. Estimation Period: February 23, 1987 to July 2, 1987

A. Dependent Variable: mark-dollar exchange rate

Independent Variables			Coefficient	T-statistic
Intervention dummies				
Initial purchases	no lag	(1)	0.009	1.73[a]
	lagged	(1)	-0.007	-1.35[b]
Subsequent purchases	no lag	(0)	—	—
	lagged	(0)	—	
Initial sales	no lag	(3)	-0.007	-2.38[c]
	lagged	(3)	-0.006	-2.06[c]
Subsequent sales	no lag	(2)	-0.006	-1.14
	lagged	(2)	-0.008	-1.56
Lagged dependent			1.00	994.8[d]

Sum of Squared Residuals = 0.001
R^2 = 0.824
n = 90

B. Dependent Variable: yen-dollar exchange rate

Independent Variables			Coefficient	T-statistic
Intervention dummies				
Initial purchases	no lag	(0)	—	—
	lagged	(0)	—	—
Subsequent purchases	no lag	(0)	—	—
	lagged	(0)	—	—
Initial sales	no lag	(2)	-0.011	-1.89[b]
	lagged	(2)	-0.001	-0.21
Subsequent sales	no lag	(16)	-0.007	-3.08[d]
	lagged	(16)	0.0005	0.21
Lagged dependent			1.000	7016.4[d]

Sum of Squared Residuals = 0.003
R^2 = 0.969
n = 90

NOTE: Intervention refers to U.S. purchases or sales of foreign currencies. Numbers in parentheses indicate the number of times the dummy equals 1.
a. Significant at the 10% confidence level.
b. Significant at the 10% confidence level (one-tailed).
c. Significant at the 5% confidence level.
d. Significant at the 1% confidence level.
SOURCE: Author's calculations.

Table 3A lists the results for the period February 23, 1987 to July 2, 1987. For the West German mark, the coefficient for initial purchases of marks is positive and significant. One cannot interpret this coefficient unambiguously, because causality is bidirectional without the lag: nevertheless, the positive cofficient is not consistent with the view that intervention purchases of marks produced a dollar depreciation.

The lagged value on initial intervention is marginally significant and correctly signed. The United States bought a small amount of marks on March 11, as the dollar rose above 1.85 marks. The dollar depreciated on the following day. The coefficients on the sales of marks are incorrectly signed and/or insignificant. For the Japanese yen, all of the coefficients are either incorrectly signed or insignificant.

Table 4A presents the results for the period July 5, 1987 to August 28, 1987. For the West German mark, the coefficient for initial purchases of marks is positive and significant. As before, this coefficient cannot be unambiguously interpreted, but the sign is not consistent with the view that intervention purchases of marks produced a dollar depreciation. The remaining intervention variables are not significant. For the yen, the coefficients are either incorrectly signed or are not significant.

TABLE 4A

'87 Intervention

1. Estimation Period: July 5, 1987 to August 18, 1987

A. Dependent Variable: mark-dollar exchange rate

Independent Variables			Coefficient	T-statistic
Intervention dummies				
Initial purchases	no lag	(1)	0.011	2.53[a]
	lagged	(1)	-0.001	-0.27
Subsequent purchases	no lag	(3)	0.003	0.75
	lagged	(3)	0.001	0.47
Initial sales	no lag	(0)	—	—
	lagged	(0)	—	—
Subsequent sales	no lag	(0)	—	—
	lagged	(0)	—	—
Lagged dependent			0.999	758.5[b]

Sum of Squared Residuals = 0.001
R^2 = 0.849
n = 38

B. Dependent Variable: yen-dollar exchange rate

Independent Variables			Coefficient	T-statistic
Intervention dummies				
Initial purchases	no lag	(0)	—	—
	lagged	(0)	—	—
Subsequent purchases	no lag	(0)	—	—
	lagged	(0)	—	—
Initial sales	no lag	(1)	-0.018	-2.51[a]
	lagged	(1)	0.009	1.70
Subsequent sales	no lag	(0)	—	—
	lagged	(0)	—	—
Lagged dependen;			1.000	+166.2[b]

Sum of Squared Residuals = 0.001
R^2 = 0.830
n = 38

NOTE: Intervention refers ro U.S. purchases or sales of foreign currencies. Numbers in parentheses indicate the number of times the dummy equals 1
a. Significant at the 5% confidence level.
b. Significant at the 1% confidence level.
SOURCE Author's calculations.