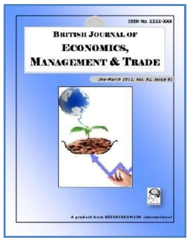

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Current Account and Exchange Rate Dynamics in Presence of Risk and Economic Shocks

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Authors' contributions

This work was carried out in collaboration between the two authors. Both authors wrote the paper, read it, and approved the final manuscript.

Research Article

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ABSTRACT

The paper is using a two period model of consumption and current account balance and tries to determine the dynamics of the exchange rates by taking into consideration the increases in oil prices, national debts, budget and trade deficits, the global uncertainty, and the enormous liquidity, due to the recent financial crisis and recession. Specifically, in this paper we have used the insights of an intertemporal model of consumption to analyze the recent behavior of the current account balance in the U.S. We have examined the roles of risk, price of gold, price of oil, TED spread, as well as interest rate, GDP and government spending. We have also analyzed the behavior of spot rate.

Keywords: Exchange rate determination; current account; oil prices; national debt; uncertainty; multiple regression; cointegration test.

1. INTRODUCTION

The recent oil shocks,[1] the huge debts,[2] the financial crisis,[3] and the deep recession,[4] created an enormous mistrust for the international financial system, a big disturbance to the

[1]*It reached $143.67 per barrel on June 30, 2008. Now, the oil price is $96.16 (Bloomberg.com, September 7, 2012).*
[2]*The U.S. national debt was $16.028 trillion on September 7, 2012.*

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real sector of the economy, and an uncertain future for the entire world. For an oil importing country a rise in the price of oil leads to currency depreciation (direct effect), which causes an increase in the value of imports and an improvement in exports. The high income of oil exporting countries is going to be spent on purchases of goods or assets from the country with the devaluated currency and its currency will appreciate (indirect effect). Thus, if the value of imported oil (capital outflow) is equal to the value of foreign investment (capital inflow) by the oil producers, the currency must stay unchanged. The elasticity of demand for importing oil is inelastic and the value of imports is large; but, the elasticity of demand for investment is relatively elastic, due to diversification and competition among financial assets issued by different countries, so the value of capital inflow will be less than outflow. In this case the currency of the oil importing country will depreciate.

Recently there have been numerous studies of the determinants and behavior of current account balance for both the advanced developed countries and the developing countries. See for example, [1], [2], [3], [4], [5], [6], and [7] among many others. Given increased globalization over the past twenty years it is not surprising that there is tremendous interest in studying current account balance. The behaviors of current account balance for most countries have also been sufficiently varied to warrant such renewed interest in current account balance, after the latest debt crises and the enormous unemployment.

Consider for example the current account balance for the United States. Fig. 1 shows the behavior of the U.S. current account balance since 1980. Starting from a zero current account deficit in 1980 within about twenty five years the current account deficit increased to $800 billion. Over the last thirty years the current account deficit in the U.S. increased marginally during the recessions of 1982-83 and 2001.There was significant improvement in the current account balance during the recession of 1991-92 and in the first half of the recession of 2008-2009, while the second half of the 2008-2009 recession witnessed a worsening of the current account balance. The rise and fall of the current account deficit occurred over periods of increasing or stable oil prices, increasing uncertainty in global economic and political arena. Such diverse behavior of the current account balance is not limited to the United States. But, it implies that the behavior of the current account deficit in the United States and elsewhere cannot often be easily explained by traditional theories of the current account balance and that it needs to be constantly examined and reexamined.

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[3] *The DJIA from 14,164.53 (October 9, 2007) fell to 6,547.05 (March 9, 2009); an enormous decline by -7,617.48 points or -53.78%, a loss of $18 trillion. Now (3/12/2013), its nominal value has surpassed the 2007 level, it is 14,447.29, but the real (inflation-adjusted) level is where it was in 1999. (The Wall Street Journal, March 6 and 12, 2013).*

[4] *The real GDP fell drastically in 2008:Q4 ($g_Y = -6.78\%$) and the unemployment rate became a double digit in October 2009 ($u = 10.1\%$). Lately, the $g_Y = 2.2\%$ for 2012 (and for the 4th quarter of 2012, it was -0.14%) and the unemployment rate was $u = 7.9\%$ (January 2013).*

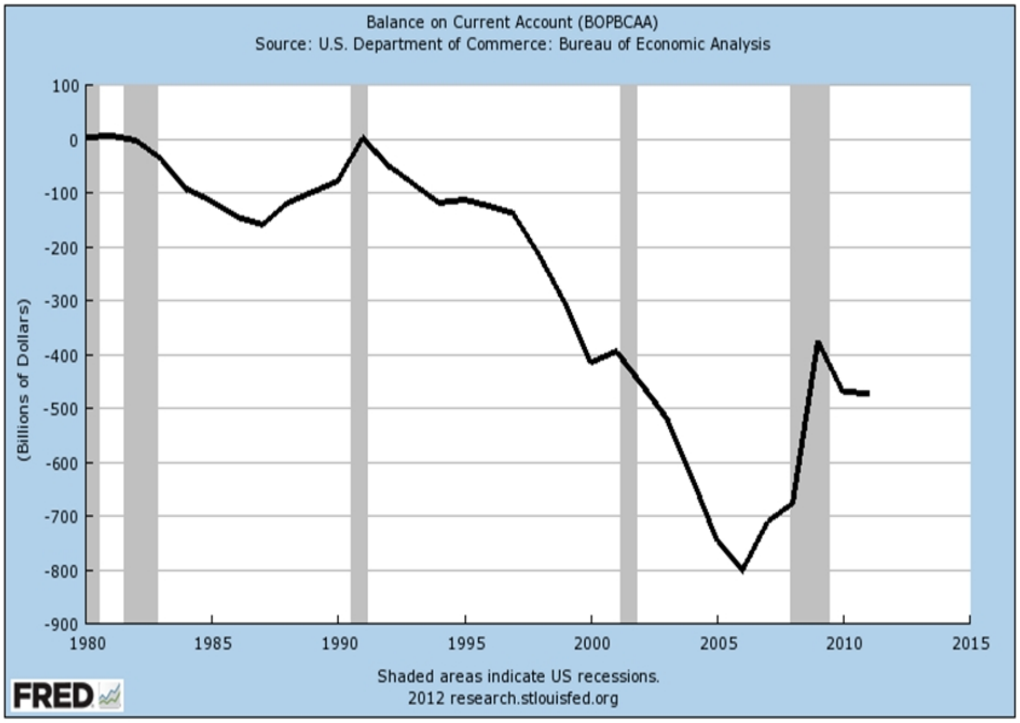


Fig. 1. U.S. Current account
Note: Current account = exports - imports (of goods and services).
Source: Federal Reserve Bank of St. Louis: Federal Reserve Economic Data (FRED)

The purpose of this paper is to analyze the determinants of the current account balance in the U.S. using a micro theory based intertemporal model of capital account balance and also to empirically examine the behavior of the spot dollar exchange rate. The structure of the paper is as follows. In section 2, we develop the intertemporal model of consumption and capital account balance and provide a graphical analysis of the effects of various economic shocks on the current account balance. In section 3, we estimate the U.S. current account balance using the data for 1999-2011. We also provide a related empirical estimation of the U.S. spot exchange rate using similar explanatory variables as used in the current account balance estimation. Concluding remarks are made in section 4.

2. CONSUMPTION AND CURRENT ACCOUNT BALANCE

In this section we develop a two period model of consumption and current account balance following [8]. The economy consists of identical consumers who live for two periods. Their preferences are characterized by a quasi concave utility function $U(C_1, C_2)$ where C_1 and C_2 are the levels of consumption in periods 1 and 2. The consumers maximize their utility subject to a lifetime resource constraint given by,

$$C_1 + \frac{C_2}{1+r} = R \tag{1}$$

where R = Lifetime Wealth of households + Firms' Value + Value of oil, as follows,

$$R = W + V + N^D \tag{2}$$

Let us consider each component of the resource constraint

$$W = (w_1 L_1 - t_1) + \frac{(w_2 L_2 - t_2)}{1+r} \tag{3}$$

where w_1, w_2, are the wage rates, L_1 and L_2 are the levels of labor supply, t_1 and t_2 are the taxes in periods 1 and 2, and r is the underlying interest rate.

$$V = (Y_1 - I - w_1 L_1 - q_1 N_1) + \frac{\left(Y_2 - w_2 L_2 - q_2\ N_2\right)}{1+r} \tag{4}$$

where Y_1 and Y_2 and real GDP, I, is real investments carried out by the firms, N_1, N_2 are the usage of oil and q_1 and q_2 are the world oil prices in periods 1 and 2. Finally,

$$N^D = q_1 N_1^D + \frac{q_2 N_2^D}{1+r} \tag{5}$$

where $N_1^D$and N_2^D are the levels of domestic oil production in periods 1 and 2.

Note that governments taxes and expenditures are governed by the familiar intertemporal budget constraint for the government

$$G_1 + \frac{G_2}{1+r} = T_1 + \frac{T_2}{1+r} \tag{6}$$

Now, substituting (3) – (6) in (1) and collecting terms we get,

$$\begin{aligned} W + V + N^D &= (Y_1 - G_1 - I_1 + q_1(N_1^D - N_1)) + \left(\frac{Y_2 - G_2 + q_2(N_2^D - N_2)}{1+r}\right) \\ &= Z_1 + \frac{Z_2}{1+r} \end{aligned} \tag{7}$$

where $Z_1 = Y_1 - G_1 - I_1 + q_1 \ (N_1^D - N_1)$ (8)

$Z_2 = Y_2 - G_2 + q_2 \ (N_2^D - N_1)$

Thus, the optimization problem of the consumers is given by:

Maximize $U(C_1, C_2)$

Subject to $C_1 + \frac{C_2}{1+r} = Z_1 + \frac{Z_2}{1+r}$ (9)

Now, (8) yields the fundamental characterization of the Current Account Balance (CAB).

Note, $Z_1 - C_1 = (Y_1 - C_1 - G_1 - I_1) + q_1 (N_1^D - N_1)$
= Net exports of goods and services
+ Net export from oil
$= CAB_1$ (10)

But, by virtue of (9),

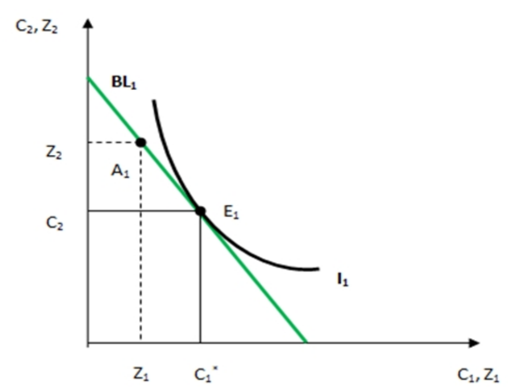
$$(Z_1 - C_1) = -\frac{(Z_2 - C_2)}{1+r}$$

or $$CAB_1 = -CAB_2(1+r)^{-1} \quad (11)$$

Because of (11), in our discussion we can simply focus on Current Account Balance in period 1.

2.1 Shocks to the Economy and Current Account Balance

The closed form solutions for capital account balance and the related comparative static effects are somewhat messy. So we use graphical analysis instead to show how the capital account balance is affected by shocks and changes in economic variables. For our discussion we consider an oil importing country that has a current account deficit. Fig. 2 shows a standard graph for intertemporal utility maximization, where the budget line is BL1. The endowment point and the equilibrium points are A1 and E1 respectively. Since C1 exceeds Z1, we can conclude that the country has a deficit in its current account balance.



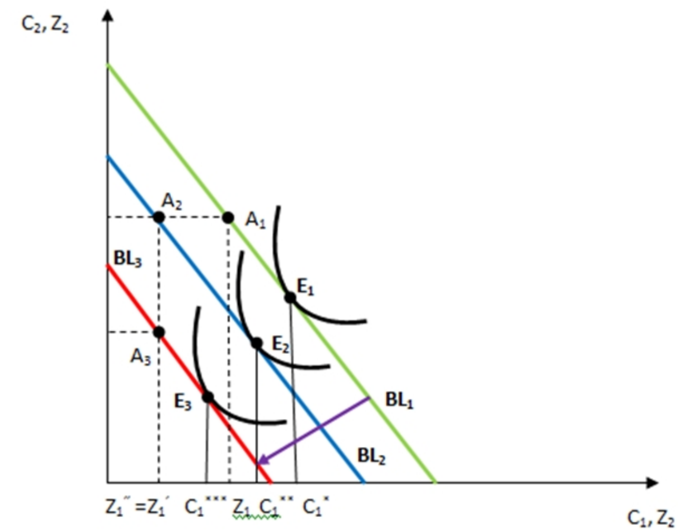
Budget Line:BL₁; Endowment point: A₁; Indifference Curve: I₁

Equilibrium point: E₁

Since optimal consumption, $C_1^* > Z_1$, there is current account deficit.

Fig. 2. Determination of current account balance

Using the above graph we can determine the effects on current account balance of various shocks to the economy, such as a reduction in GDP, increase in price of oil or increase in government spending. Consider Fig. 3. Initially, as in Fig. 2, the country has current account deficit. The initial budget line is BL1. The initial endowment point and equilibrium point are E1 and E2 respectively. A reduction in current GDP, Y1 or an increase in price of oil q1, for an oil importing country, lowers Z1 and shifts the intertemporal budget line from BL1 to the left to BL2. If the shock is temporary the endowment point shifts horizontally to A2. The new equilibrium is at E2. Current consumption falls but due to the consumption smoothing motive, it falls by a smaller amount than the decline in Z1. As a result, the current account deficit (in period 1) increases.



A temporary shock such as a temporary reduction in GDP or an oil price increase shifts the budget line from BL_1 to BL_2 and the endowment point from A_1 to A_2. Equilibrium shifts from E_1 to E_2 causing current account deficit to increase. A permanent shock, such as a permanent increase in oil price shifts the endowment point vertically down to A_3 and the budget line further inward to BL_3. Equilibrium point is now E_3. Under a permanent shock current account deficit is less than under a temporary shock. Net effect of a permanent shock on current account balance is ambiguous.

Fig. 3. Effects of temporary and permanent shocks on current account balance

Now, if the shock is permanent such as a permanent increase in oil price, since q2 also rises by the same amount, the budget line shifts further to BL3 with the endowment point shifting vertically down to A3. The new equilibrium is at E3. Compared to the temporary shock, the current account deficit improves. The net effect on current account balance is ambiguous.

Fig. 4 is used to illustrate the effect of a temporary increase in Government spending G1. The increase in G1 is assumed to be paid for by a corresponding future spending cut –i.e., reduction in G2, so that the Government budget constraint (6) continues to hold. As a result, the budget line does not shift but the endowment point shifts up from A1 to A4. Consequently, the current account deficit increases.

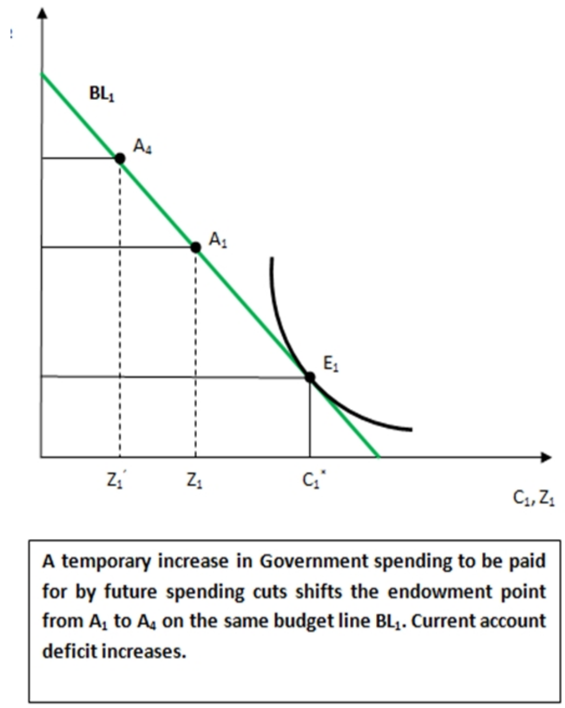


Fig. 4. Effects of temporary increase in government spending on current account balance

At this point, we should note that in this model a temporary slump is caused by an adverse shock such as an adverse productivity shock or an increase in price of oil. The temporary reduction in Y1 or Z1 causes current account deficit to increase. Conversely, temporary increase in Y1 or Z1 caused by a favorable productivity shock or a reduction in price of oil can reduce the current account deficit. These results are different from the conventional macroeconomic prediction that a boom (slump) causes current account deficit to increase (decrease) by increasing (decreasing) demand for imports. However, the current model can also accommodate the conventional macroeconomic prediction. For example, if GDP increases due to the multiplier effects associated with the increases in G, there may be competing effects on the current account deficit and for such demand induced increase in income, current account deficit may actually increase.

The above graphical framework can be used to demonstrate the effect of interest rate on current account deficit. If the interest rate falls, the budget line becomes flatter but still passes through the same endowment point. The current consumption for a country that has a current account deficit, falls and as a result the current account deficit increases.

We summarize the basic results of the model in Result 1, below.

Result 1: Consider an oil importing country that has a current account deficit. The amount of the current account deficit increases if (i) there is a temporary slump that reduces GDP; (ii) there is a temporary increase in price of oil; in case of a permanent increase in price of oil, the effect on current account deficit is ambiguous, (iii) there is a temporary increase in government spending to be paid for by future spending cut and (iv) if interest rate falls.

2.2 Current Account Balance under Uncertainty

In this section we briefly discuss the effect of uncertainty on current account balance. The framework is very similar to the previous section. However we assume that the households maximize expected utility from consumption, where the utility function exhibits constant absolute risk aversion. The consumers are exposed to risk from various sources, such as the risk associated with future price of oil or political instability or the risk of a slump. We further assume that the risk is captured by a random variable λ, which enters the budget constraint (9) additively. Because of the structure of our model, the source of uncertainty does not affect the main result.

The households' optimization problem can be formulated as follows

The households maximize

$$U(C1) + \beta EU(C2) \tag{12}$$

Subject to
$$C_1 + \frac{C_2}{1+r} = Z_1 + \frac{Z_2}{1+r} + \lambda \tag{9`}$$

where λ is the additive random variable that captures risk and β the utility discount factor.

The following result summarizes the effect on current account balance of an increase in riskiness associated with λ. For details see, [9].

Result 2: An increase in the risk as captured by a mean preserving spread of lowers current consumption and thus improves the current account balance.

3. EMPIRICAL RESULTS

In this section we estimate U.S. current account balance using the monthly data from 1999:01 to 2011:12. The data source is economagic.com. We also run a related regression on the U.S. spot exchange rate by using data from 1999:01 to 2010:12.

3.1 Current Account Balance Regression

In this regression of current account balance (CAB) we first use the explanatory variables as suggested by the intertemporal model developed in section 2.1: GDP (Y), Government Expenditure (G), Price of oil (p_{oil}), and interest rate on ten-year U.S. government bond (i). All the variables are expressed as natural logs except interest rates. In addition we include two variables to capture risks: the TED spread, the three-month LIBOR minus the three-month T-Bill rate (TED) as a measurement of credit risk and the price of gold (p_{Gold}) as an indicator of a general investment risk. The use of price of gold as an indicator of investment risk is perhaps unusual, but can be easily explained. During the time period used in the data set, price of gold almost consistently increased since investors preferred gold over other risky financial assets. Finally, we also consider the spot exchange rate (s) as a determinant of current account balance, a variable that was left out of our single good intertemporal model of section 2.

The regression equation is given by

$$ca_t = \beta_0 + \beta_1 TED_t + \beta_2 p_{oil_t} + \beta_3 p_{gold_t} + \beta_4 s_t + \beta_5 i_t + \beta_6 y_t + \beta_7 g_t + \varepsilon_t \tag{13}$$

The estimation results are presented in Table 1. As column 2 of Table 1 indicates both risk variables: TED and P_{Gold} are significant and that they have a positive effect on the current account balance. These effects are consistent with the results of the analytical model. As noted in section 2, an increase in price of oil has a negative effect on current account balance, but the effect is statistically insignificant. The spot exchange rate also has a negative but insignificant effect on the current account balance. As explained in the intertemporal model, increase in interest rate has a positive and statistically significant effect on current account balance. Besides our explanation of the impact of the increase in interest rate one can also make the traditional argument that by virtue of the interest rate parity, an increase in the interest rate is due to the expected depreciation of the dollar which improves the current account balance. Finally, both GDP and Government spending have significant effects on current account balance. However, the negative effect of GDP and the positive effect spending are in contrast with the results of our basic model. They underscore the importance of the demand side effects of the macroeconomic shocks.

However, the regression has a low D-W statistic of 0.456 suggesting that the error term is serially correlated. We now re-estimate equation 13 with the same explanatory variables but adding three MA processes: MA (1), MA (2), and MA (3). As the values of column 2 indicate none of the qualitative results of the previous regression changes but the D-W statistic improves to 1.786. Also, a cointegration test for eq. (13) shows that a stationary linear combination exists for the time series (Table 3). This cointegrating equation can be interpreted as a long-run equilibrium relationship among these variables, as Engle and Granger have developed in their theory of non-stationary time series analysis [10]. Further, two other tests, a Q-statistics and a serial correlation LM test (Breusch-Godfrey Lagrange multiplier test) were performed to test for autocorrelation and partial autocorrelation of the residuals together with the Ljung-Box Q-statistics for high-order serial correlation [11]. The results show that there is no first-order serial correlation, but there is serial correlation of higher order.

3.2 The Spot Exchange Rate

We finally run a related regression of spot exchange rate [s_t (\$/€)]. We use similar explanatory variables as in equation (13) with the exception of the risk variables, TED and p_{Gold}, lag values of the p_{oil} to test its dynamic effect, GDP, and Government spending, g.

We however include a national debt variable (in natural log), nd. We also include two dummy variables to capture the effects if Iraqi war and the European debt crisis: war dummy, WD, with values of zero (0) before 2003:03 and one (1) afterward, and European debt crisis dummy, EDCD, with values of zero (0) before 2009:10 and one (1) after.

Table 1. U.S. Current account balance regression [eq. (13)]

Variables	ca_t	ca_t
α_0	16.911***	12.959***
	(1.500)	(1.969)
TED_t	0.041***	0.016**
	(0.005)	(0.006)
p_{oil_t}	-0.013	-0.019
	(0.014)	(0.015)
p_{Gold_t}	0.204***	0.119***
	(0.017)	(0.022)
s_t	-0.020	-0.004
	(0.028)	(0.046)
i_t	0.018***	0.010*
	(0.005)	(0.006)
y_t	-2.383***	-1.957***
	(0.219)	(0.284)
g_t	0.513***	0.583***
	(0.096)	(0.119)
$MA(1)$	-	0.980***
		(0.088)
$MA(2)$	-	0.750***
		(0.108)
$MA(3)$	-	0.365***
		(0.085)
R^2	0.876	0.951
SSR	0.120	0.047
$D-W$	0.456	1.786
F	149.762	282.160
N	156	156

Note: ca_t = current account balance, TED_t =TED spread ($= i_{LIBOR} - i_{RF}$), p_{oil_t} = price of oil, p_{gold_t} = price of gold, s_t = spot exchange rate ($/€), i_t = interest rate on ten year U.S. government bond, y_t = GDP, g_t = Government spending' MA = moving average process, R^2 = R-squared, SSR = sum of squared residuals, $D-W$ = Durbin-Watson statistic, F = F-statistic, N = number of observations, (*), (**), and (***) = significant at the 10%, 5%, and 1% level, standard errors in parentheses. All variables except TED spread and interest rate are in natural log.
Data Source: Economagic.com. Data from 1999:01 to 2011:12.

The regression equation is given by,

$$s_t = \alpha_0 + \sum_{j=0}^{n} \alpha_j p_{oil_{t-j}} + \alpha_2 nd_t + \alpha_3 ca_t + \alpha_4 WD + \alpha_5 EDCD + \varepsilon_t \quad (14)$$

The initial regression results are reported in Table 2, column 1. But as in the case of the current account balance regression, the D-W statistic is low (0.265) suggesting that the error term is serially correlated. We now re-estimate equation 14 with the same explanatory variables, but adding two MA processes: MA (1) and MA (2). The new regression results are reported in column 2. The D-W statistic improves to 1.729. In addition, a cointegration test for eq. (14) shows that a stationary linear combination exists for the time series (Table 3). This cointegrating equation can be interpreted as a long-run equilibrium relationship among these variables. Finally, the two other tests, a Q-statistics and a serial correlation LM test (Breusch-Godfrey test) were performed to test for autocorrelation and partial autocorrelation of the residuals for high-order serial correlation. The results show that there is no first-order serial correlation, but there is serial correlation of higher order, too.

Table 2. U.S. Spot exchange rate regression [eq. (14)]

Variables	s_t	s_t	s_t	s_t
α_0	0.897	-2.662***	-0.391	-0.636***
	(0.566)	(0.612)	(0.595)	(0.102)
p_{oil_t}	0.111***	0.130***	0.200***	0.126***
	(0.020)	(0.021)	(0.049)	(0.023)
$p_{oil_{t-1}}$	-	-	-0.012	0.023
			(0.069)	(0.020)
$p_{oil_{t-2}}$	-	-	-0.105**	0.028
			(0.048)	(0.023)
nd_t	-0.129**	0.252***	0.027	0.001
	(0.066)	(0.072)	(0.070)	(0.001)
ca_t	0.686***	-0.116	0.608***	0.029
	(0.132)	(0.149)	(0.119)	(0.158)
WD	0.264***	0.058**	0.236***	0.062***
	(0.026)	(0.025)	(0.025)	(0.024)
$EDCD$	-	-0.026*	-0.083***	-0.025
		(0.026)	(0.025)	(0.026)
$MA(1)$	-	1.257***	-	1.309***
		(0.076)		(0.077)
$MA(2)$	-	1.048***	-	1.211***
		(0.100)		(0.110)
R^2	0.849	0.969	0.875	0.972
SSR	0.614	0.126	0.557	0.125
$D-W$	0.265	1.729	0.326	1.936
F	190.552	513.154	148.176	455.652
N	141	141	156	156

Note: See, Table 1; = spot exchange rate ($/€) = price of oil, = ln national debt, = current account balance, = war dummy, = European debt crisis dummy, (*), (**), and (***) = significant at the 10%, 5%, and 1% level, standard errors in parentheses. All variables are in natural log. Source: Economagic.com. Data from 1999:01 to 2010:12.

The results of column 2 in Table 2 show that, as expected, national debt and price of oil have statistically significant positive effects on the spot rate causing dollar to depreciate. The Iraqi war (WD) has a significant negative effect on the value of the U.S. dollar (spot rate was increasing). The European debt crisis (EDCD) has a significant negative effect on euro and consequently lowers the spot rate and causes the dollar to appreciate. Current account balance has a statistically insignificant effect. [The details of exchange rate dynamics are discussed in [9].

Table 3. Cointegration tests of the multi-variables models

Eq. (13); Variables: $ca, TED, p_{oil}, p_{Gold}, s, i, y, g$

(Maximum lag in VAR=2)

Null	Alternative	Eigenvalue	Trace Test Statistics	Trace Test Critical Value 95%	Maximum Eigenvalue Test Statistics	Maximum Eigenvalue Test Critical Values 95%
$r=0$	$r>0$	0.574	257.790***	159.530	130.379***	52.363
$r\leq 1$	$r>1$	0.224	127.412**	125.615	38.864	46.231
$r\leq 2$	$r>2$	0.183	88.548	95.754	31.076	40.078
$r\leq 3$	$r>3$	0.127	57.539	69.819	20.720	33.877
$r\leq 4$	$r>4$	0.104	36.819	47.856	16.726	27.584
$r\leq 5$	$r>5$	0.075	20.093	29.797	11.986	21.132
$r\leq 6$	$r>6$	0.039	8.107	15.495	6.113	14.264
$r\leq 7$	$r>7$	0.013	1.994	3.841	1.994	3.841

Note: See Table 1; Trace test indicates 2 cointegrating equations at the 5% level. Maximum eigenvalue test indicates 1 cointegrating equation at the 5% level.

Eq. (14); Variables: $s, p_{oil}, nd, ca, WD, EDCD$

(Maximum lag in VAR=2)

Null	Alternative	Eigenvalue	Trace Test Statistics	Trace Test Critical Value 95%	Maximum Eigenvalue Test Statistics	Maximum Eigenvalue Test Critical Values 95%
$r=0$	$r>0$	0.202	102.765***	95.754	34.550	40.078
$r\leq 1$	$r>1$	0.183	68.214*	69.819	30.947	33.877
$r\leq 2$	$r>2$	0.108	37.267	47.856	17.487	27.584
$r\leq 3$	$r>3$	0.086	19.780	29.797	13.795	21.132
$r\leq 4$	$r>4$	0.033	5.985	15.495	5.180	14.265
$r\leq 5$	$r>5$	0.005	0.805	3.841	0.805	3.841

Note: See Table 2; Trace test indicates 1 cointegrating equation at the 5% level and 1 cointegrating equation at the 10% level. Maximum eigenvalue test indicates no cointegration at the 5% level.
Source: See Table 1 and 2.

4. CONCLUDING REMARKS

The objective of this analysis is to determine the exchange rate dynamics based on shocks on the economy and on current account, due to oil prices, debts, and risk, between the U.S. dollar and the euro. Lately, the U.S. dollar was losing value with respect the euro and other major currencies of the world and we want to see if this depreciation depends on economic shocks and economic fundamentals or it is just speculation from individuals and countries, which hold large amounts of foreign assets denominated in different currencies or due to the current global financial crisis, recessions, instability, and the risk that the U.S. might freeze the foreign funds invested in its assets. The preliminary conclusion from this ex post analysis is, here, that, international investors are investing in countries with higher return, lower risk, and safety. This increase in demand for these assets, increases the demand for currency in that country and its currency is appreciated,[5] the oil prices, the high risk and the enormous debts are affecting negatively the currency. Before 2001, people were invested in the U.S. and Japan, so the U.S. dollar and the Japanese yen were appreciated. After 2001, they

[5] *Here, the causality goes from* $i_{AAA}\uparrow \xrightarrow{3.236} S\downarrow (\$\uparrow)$ *and (* $\rho_{i,S}=-0.809$ *).*

invested in Euro-zone and the U.K. and the dollar and yen lost their value. Of course, due to high risk (wars and creeping ones, political conflicts, and a unique financial crisis) and low returns, many speculators have invested in euros and other currencies, instead in dollars denominated assets. Since November 2009, we have seen a change in this trend because of the Euro-zone debt problems. The current account is affected by risk and high debts, too.

Lastly, in this paper we have used the insights of an intertemporal model of consumption to analyze the recent behavior of the current account balance in the U.S. We have examined the roles of risk, price of gold, price of oil, TED spread, as well as interest rate, GDP and government spending. We have also analyzed the behavior of spot rate. In future papers we plan to use this framework to run a cross-country analysis of current account balance where we plan to include both the OECD and the developing countries.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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