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Are Current Account Deficits Sustainable? New Evidence from Iran Using Bounds Testing Approach to Level Relationships

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Abstract This paper provides new evidence on the long-run relationship between exports and imports of the Iranian economy by employing bounds testing approach to level relationships. In Iran, there have been many unusual policy changes and/or external shocks to the economy; this has resulted in the occurrence of a multitude of structural breaks in macroeconomic variables. By taking these breaks into account, results of the present study reveal that there is a long-run equilibrium relationship between imports and exports over the sample period, 1960–2007. This result confirms the finding of Arize (*Imports and exports in 50 countries: Tests of cointegration and structural breaks*, 2002) by employing bounds tests to level relationships and suggests that current account deficits in Iran are sustainable.

JEL C22, F10, F32
Keywords Current account; bounds test; Iran

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1 Introduction

One of the long-standing distinguished topics in macroeconomics has been the sustainability of current accounts (see, e.g., Husted 1993; Bahmani-Oskooee 1994; Gould and Ruffin 1996; Fountas and Wu 1999; Arize 2002; Mann 2002; Baharumshah et al. 2003; Christopoulos and Leon-Ledesma 2010; among others), which occur when exports and imports converge to equilibrium in the long-term period. In that case, significant changes in the macroeconomic policy are not necessary. An unsustainable disequilibrium occurs when exports and imports do not converge in the long-term period, and leads to current account deficits. These deficits, in the long run, lead to an increase in interest payments, causing a large debt for future generations and, thus, a lower standard of living. Therefore, the investigation of whether imports and exports are in long-run equilibrium relationship is essential for the design and evaluation of current and future macroeconomic policies aimed at achieving a trade balance (Arize, 2002).

An empirical investigation about the sustainability of current account deficits provides mixed results in the relevant literature. Some studies—such as Husted (1993) and Gould and Ruffin (1996), with US data; Bahmani-Oskooee (1994), with Australian data; Herzer and Nowak-Lehmannd (2005), with Chilean data; Cheong (2005), with Malaysian data; Kalyoncu (2005), with Turkish data; Hollauer and Mendonca (2006), with Brazilian data; Bineau (2007), with Bulgarian data; and Ramona and Razvan (2009), with Romanian data—found that exports and imports of these countries, in their period of study, converge in the long run. Moreover, Wu et al. (2001), by applying panel cointegration tests, support the sustainability of current account for G–7 countries. On the other hand, Founds and Wu (1999), with US data; Cheong (2005), with Malaysian data; and Verma and Perera (2008), with Sri Lanka's data, have shown that the hypothesis of no long-run relationship between imports and exports cannot be rejected and conclude that the trade deficits of those countries are not sustainable. Baharamuhah et al. (2003) investigate the sustainability of current account deficits for four ASEAN countries (Indonesia, Malaysia, the Philippines, and Thailand) over the 1961–1991 period, and their results show that, except Malaysia, these countries were not in a long-run steady state in that period. Moreover, Erbaykal and Karaca (2008) examine the foreign deficit of Turkey and conclude that although exports and imports of Turkey are cointegrated, the slope coefficient of their regression is not statistically equal to one.

To investigate the long-run convergence between exports and imports in 50 countries over the period 1973: 2 to 1998:1, Arize (2002) found evidence in favor of cointegration in 35 of the 50 countries by applying the Johansen (1988) and Johansen and Juselius (1990) techniques. In addition, he confirmed long-run relationships for 49 of the 50 countries (except Mexico) using the Stock and Watson (1988) test. This is a vacuum of research, as traditional approaches to cointegration, such as Johansen's technique, have some serious drawbacks.

For the Iranian case, Arize (2002) has shown that there is a long-run relationship between imports and exports, and the sign on the estimated cointegrating coefficient is positive. This result reveals that the Iranian trade deficit is a short-run phenomenon during which its imports and exports may drift apart but converge towards equilibrium in the long run.

According to the fact that Iran is an oil-exporting country and the high oil prices in recent years led the Iranian economy to a positive balance, we may raise the question of whether the present current account balance is sustainable. Therefore, the purpose of this study is to answer the question: “Are current account deficits sustainable in spite of various shocks such as oil prices, revolution, war, and some inappropriate currency polices?” To motivate this paper, we need to have an overview of Iran’s economic situation. In Iran, after eight years war with Iraq, to create the appropriate conditions for improving production and activating non-oil export sectors, the government used limited liberalization in the foreign trade sector and exchange market. However, these reforms were suspended. The high inflationary pressures and the volatility in the parallel exchange market (foreign debt, especially short-term loans, had created a difficult situation in the exchange market) led to current account deficits. Specific problems, such as financing the budget deficit, inappropriate currency policies, high inflation, various monetary and fiscal shocks, and their impact on the current account deficits, make this investigation a central issue in international trade studies. There are many methods to analyze the current account sustainability; however, this paper applies the bounds testing approach to level relationships, as introduced by Pesaran et al. (2001). This paper differs from others in the following ways: 1) As standard unit root tests, such as Augmented Dickey Fuller (*ADF*) and

Philips and Perron (*PP*) tests, are biased towards the null of a unit root in the presence of structural breaks. We use Perron (1990) and Lee and Strazicich (2004) tests to address this issue and test the null of unit root in the series. 2) Since the existence of structural breaks may cause the series to be integrated at different orders and to investigate a long-run relationship between variables under consideration, this paper applies the bounds test for level relationships within the Autoregressive Distributed Lag (*ARDL*) modeling approach. This method was developed by Pesaran et al. (2001) and can be applied irrespective of whether the underlying regressors are $I(1)$ or $I(0)$ or fractionally integrated.

The paper proceeds as follows: Section 2 provides a theoretical model for the intertemporal approach to current account determination. In Section 3, the data and econometric methodology of the study are presented. Section 4 contains the empirical results and discussions. Finally, Section 5 concludes the paper.

2 Theoretical background

Following Arize (2002), this paper uses Husted's (1993) framework, which implies a long-run relationship between exports and imports. The theoretical basis of Husted's (1993) model is an intertemporal balance model. He models the behavior of the stock of external debt to determine where a country's intertemporal budget constraint is verified. The individual current-period budget constraint at time *t* is:

$$C_t = Y_t + B_t - I_t - (1+r)B_{t-1} \tag{1}$$

Where C_t, Y_t, and I_t are consumption, output, and investment, respectively; r is a one-period interest rate; and B_t, describes international borrowing available to the consumer, which could be positive or negative.

Since this budget constraint must be satisfied for all periods, forward iterating equation (1), the intertemporal budget constraint is given by:

$$B_t = \sum_{i=1}^{\infty} \delta_{t+i} [Y_{t+i} - C_{t+i} - I_{t+i}] + \lim_{n \to \infty} \delta_n B_n \tag{2}$$

where $\delta_i = \prod_{j=1}^{i}\left(\frac{1}{1+r_{t+j}}\right)$ is the product of the first i discount factors, and $Y_t - C_t - I_t = EX_t - IM_t = TB_t$.

Following Hakkio and Rush (1991) and Husted (1993), we assume a stationary world interest rate with mean r that is exogenous with respect to the economy's choices. Equation (2) can be written as:

$$IM_t + rB_{t-1} = EX_t + \sum_{j=0}^{\infty}\frac{\Delta EX_{t+j} - \Delta Z_{t+j}}{(1+r)^{j-1}} + \lim_{j\to\infty}\frac{B_{t+j}}{(1+r)^{t+j}} \tag{3}$$

where $Z_t = IM_t + (r_t - r)B_{t-1}$.

Subtracting EX_t from both sides of this equation, we will have:

$$IM_t - EX_t + rB_{t-1} = \sum_{i=0}^{\infty}\frac{\Delta EX_{t+i} - \Delta Z_{t+i}}{(1+r)^{i-1}} + \lim_{i\to\infty}\frac{B_{t+i}}{(1+r)^{i-1}} \tag{4}$$

We assume that imports and exports are both non-stationary, and can be written, respectively, as follows:

$EX_t = a_1 + EX_{t-1} + e_{1t}$ (5)

$Z_t = a_2 + Z_{t-1} + e_{2t}$.(6)

Substitute (5) and (6) into (4) and rearrange:

$EX_t = \alpha + (IM_t + r_t B_{t-1}) - \lim_{j\to\infty}\frac{B_{t+j}}{(1+r)^{t+j}} + \mu_t$, (7)

where $\alpha = (\frac{(1+r^2)}{r})(a_2 - a_1)$

and $\mu_t = \sum {(e_{2t} - e_{1t})}/{(1+r)^{j-1}}$. In addition, it is assumed that

$\lim_{j\to\infty}\frac{B_{t+j}}{(1+r)^{t+j}} = 0$.

The left hand side of equation (4) represents the current account of an economy. In order to test the hypothesis of current account sustainability, by the above assumptions made by Husted (1993), equation (7) can be written as follows:

$EX_t = \alpha + \beta MM_t + \mu_t$ (8)

where $MM_t = IM_t + r_t B_{t-1}$.

Following Arize (2002), the model to be estimated is given by:

$$MM_t = \psi + \lambda EX_t + \varepsilon_t , \quad (9)$$

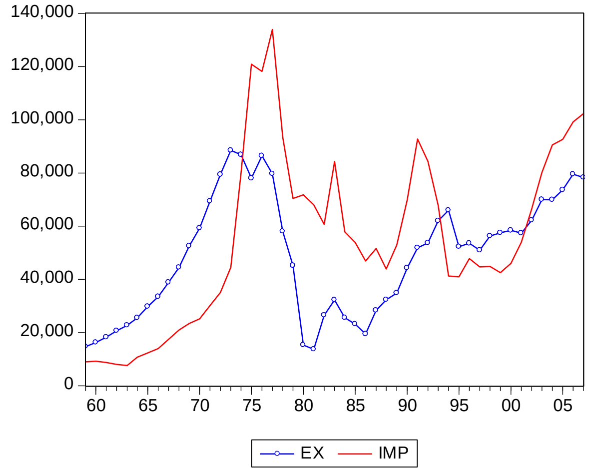
where EX_t is the export of goods and services, IM_t is the import of goods and services, and ε_t is the error term. For the sustainability of the current account, β or λ should be equal to 1, which means that exports and imports have experienced a long-term relationship. Otherwise, if β or λ is smaller than 1, the current account balance is unstable, the intertemporal budget constraint has been violated, and the government needs to perform corrective policies. Since the coefficients in Equation (8) can be changed over time due to structural changes, the question is whether the changes in these coefficients, ultimately, affect the stability of the relationship between variables or not.

3 Data, Econometric Methodology, and Initial Results

3.1 Data

This paper uses annual data of the Iranian economy covering the period 1960–2007. All the data are gathered from the Central Bank of Iran and International Financial Statistics (IFS, 2011). Following Arize (2002), the data for the export variable includes exports of goods and services, and the data for the import variable includes imports of goods and services. Since there were multiple breaks in the exports and imports of Iran, apart from 1955, deterministic trend dummies from this year were also added to the estimations in the present study. The time series plot is presented in Figure 1. As is clear from Figure 1, both series have experienced various breaks due to various events such as the Islamic Revolution, the 8-year war with Iraq, sanctions, and so on. For example, oil income in 1963 was \$555 million; it reached \$956 million in 1969, then 5 billion dollars in 1974. Then, surprisingly, it quadrupled to 20 billion dollars in 1976. Explosive income from oil revenues at that time led to an explosive increase in imports between the years 1974 to 1979, keeping the current account in surplus continuously. The effect of fluctuations in world oil prices in these years was followed by an increasing tendency for consumption and inflation in Iran. In the 1979, due to the oil industry workers strike, exports declined sharply. All of these events caused structural breaks, which makes it essential to consider them in econometric approaches.

Figure 1:



3.2 Unit Root Tests

In order to determine stationarity properties of the series, we employ several tests, such as Augmented Dickey and Fuller (*ADF*), Phillips and Perron (*PP*), (Dickey and Fuller 1981; Phillips and Perron 1988), Kwiatkowski, Phillips, Schmidt, and Shin's test (*KPSS*) (1992);and Ng and Perron (2001). *ADF* unit root test is a low power and weak test and biased toward non-rejection of unit root hypothesis. As an alternative, the *PP* procedure computes a residual variance that is robust to auto-correlation. These two tests are known to suffer potentially severe finite sample power and size problems. Ng and Perron (2001) suggested useful modifications to the *PP* test to deal with these problems. On the other hand, the *KPSS* test uses a null hypothesis, so that the series is trend stationary.

Table 1 presents the results of these tests. These results reveal that both export and import series are nonstationary at their levels, but stationary at first differences. However, the *KPSS* test result shows that we cannot reject the null hypothesis of stationary levels at the 5% for either series.

Table 1. Unit root tests results

Statistics (Level)	Export	Import
τ_T (ADF)	–2.190197	–2.428383
τ_μ (ADF)	–2.157996	–2.248327
τ (ADF)	–0.229776	–0.044257
τ_T (PP)	–1.903687	–1.983620
τ_μ (PP)	–1.880811	–1.811980
τ (PP)	–0.080817	–0.044257
τ_μ(KPSS)	0.143170	0.31043
τ_T(KPSS)	0.08632	0.131094
$Mz_{a\mu}$(np)	–6.475	–6.7915
$Mz_{t\mu}$(np)	–1.6533	–1.6880
Mz_{at}(np)	–9.2646	–11.486
MztT(np)	–2.1434	–2.3894
First difference	ΔEX	ΔIM
τ_T (ADF)	–4.132542	–4.889208
τ_μ((ADF)	–4.185137	–4.949369
τ_μ(PP)	4.189873	–4.9830
τ_T(PP)	4.1375	–4.1375
τ_μ(KPSS)	0.09725	0.0973
τ_T(KPSS)	0.09588	0.09496
$Mz_{a\mu}$(np)	–18.27	–20.42
$Mz_{t\mu}$(np)	–3.815	–3.195
Mz_{at}(np)	–3.017	–3.19
Mz_{tT}(np)	–18.30	–20.44

Note: τ_T represents the most general model with a drift and trend; τ_μ is the model with a drift and without trend; τ is the most restricted model without a drift or trend. Both in *ADF* and *PP* tests, unit root tests were performed from the most general to the least specific model by eliminating trend and intercept across the models (see Enders, 2005: 181–199). The critical values are obtained from Mackinnon (1991) for the *ADF* and *PP* test and from Kwiatkowski et al. (1992) and Ng and Perron(2001) for the *KPSS* and Ng–Perron tests, respectively.

Structural Breaks of the Series

One of the most important problems in applying the aforementioned unit root tests is that their results are biased in favor of identifying data as integrated in the presence of structural breaks. The Iranian economy has been subject to numerous shocks and regime shifts, such as the 1973–1976 oil shock, the upheavals following the 1979 Islamic Revolution, and the destructive eight-year (1980–1988) war with Iraq. These had frozen the country's foreign assets, led to volatility in international oil markets, domestic economic sanctions, and international economic isolation. In March 1993, the Iranian government embarked upon the exchange rate unification policy with consultation of the International Monetary Fund. According to Perron (1990), ignoring the effects of structural breaks can lead to spurious unit root test results.

To carry out a test of no structural break against an unknown number of breaks in the Iranian exports and imports series, we apply the endogenously-determined multiple breaks tests developed by Bai and Perron (1998, 2003). Bai and Perron (1998) introduced two tests of the null hypothesis of no structural break against an unknown number of breaks given from upper bounds. The first test is called the Double Maximum test (*Dmax*); there, equally weighted breaks are labeled by+ *UDmax*. The second test, *WDmax*, applies weights to the individual tests such that the marginal *P*-value is equal across the value of breaks. In both of these tests, break points are estimated by using the global minimization of the sum of squared residuals. Table (2) and (3) present the results of Bai and Perron's Dmax test as well as the SupFT(m) test of Andrews (1993). Additionally, the SupFT(m) test is also employed in study. These results lead us to conclude that there is at least one structural break in each series. These results are strongly supported by *CUSUM* and Chow tests.

Testing various dates in Chow-type tests and the endogenously determined multiple break tests of Bai and Perron (2003), we accept one break in 1979 for exports, which coincided with the Islamic revolution of 1979, and one break in 1976 for imports related to the oil boom in Iran that led to a sharp increase in imports of goods and services.

Table 2. Structural Break Tests for Exports

Export	Value of test	Critical value10%	Critical value5%	Critical value2.5%	Critical value1%
supfT(1)	0.3242	7.0400	8.5800	10.1800	12.2900
supFT (2)	1.3947	6.2800	7.2200	8.1400	9.3600
supF T (3)	20.0591	5.2100	5.9600	6.7200	7.6000
supF T (4)	20.9182	4.4100	4.9900	5.5100	6.1900
supF T (5)	19.7047	3.4700	3.9100	4.3400	4.9100
UD max	20.9182	7.4600	8.8800	10.3900	12.3700
WDmax	–	39.9772 (8.2000)	43.2394 (9.9100)	46.2197 (11.6700)	49.3219 (138300)
supF(2|1)	0.6284	7.0400	8.5800	10.1800	12.2900
supF(3|2)	15.3162	8.5100	10.1300	11.8600	13.8900
supF(4|3)	0.9236	9.4100	11.1400	12.6600	14.8000
supF(5|4)	0.9236	10.5800	12.2500	13.8900	15.7600

Table 3. Structural Break Tests for Imports

Import	Value of test	Critical value10%	Critical value5%	Critical value2.5%	Critical value1%
supfT(1)	4.3737	7.0400	8.5800	10.1800	12.2900
supF(2)	6.3697	6.2800	7.2200	8.1400	9.3600
supF (3)	9.0645	5.2100	5.9600	6.7200	7.6000
supF (4)	5.9963	4.4100	4.9900	5.5100	6.1900
supF (5)	6.3468	3.4700	3.9100	4.3400	4.9100
UD max	9.0645	7.4600	8.8800	10.3900	12.3700
WDmax	–	39.9772 (8.2000)	43.2394 (9.9100)	46.2197 (11.6700)	49.3219 (138300)
supF(2|1)	3.6407	7.0400	8.5800	10.1800	12.2900
supF(3|2)	0.1455	8.5100	10.1300	11.8600	13.8900
supF(4|3)	0.1455	9.4100	11.1400	12.6600	14.8000
supF(5|4)	0.2283	10.5800	12.2500	13.8900	15.7600

Unit Root Test with Endogenous Structural Breaks

To carry out the unit root test with respect to structural breaks, Perron (1990) and Perron and Vogelsang (1992) suggested a modified Dicky–Fuller unit root test that includes dummy variables to account for one known, or exogenous, structural break. Subsequent papers modified the test to allow for one or two unknown break points that are determined endogenously from the data (e.g., Zivot and Andrews (1992) for one endogenous break and Lumsdaine and Papell (1997) for two endogenous breaks).

Lee and Strazicich (2003) extended Lumsdaine and Papell's (1997) endo genous two breaks for unit root tests and introduced a new procedure to capture two structural breaks. They proposed a two-breaks unit root test in which the alternative hypothesis unambiguously implies trend stationarity. Their testing methodology is based on the Lagrange Multiplier (*LM*) unit root test. In this method, the optimal lag length is determined based on the general to specific approach suggested by Ng and Perron (1995).

Table 4 presents the results of Lee and Strazicich's (2004) unit root test. These results reveal that, at the level of 1% critical value, exports are stationary at level while imports are non-stationary at level (we cannot reject the null hypothesis of unit root for imports);thus, we conclude that, in the presence of two structural breaks, these two series are not in the same order of integration. As regards the last structural break tests used here, estimates show more than 1 break for both series;some of them even estimate more than 3 breaks (see Tables 2 and 3). In contrast, the latest unit root tests can consider only up to 2 breaks. This can lead us to uncertainty about the order of integration and a strong reason for rejecting the use of some standard cointegration approaches, such as Engel–Granger (1987), Johansen (1998), and Johansen–Juselius (1990), which are accurate when the series are in the same order of integration. Therefore, we continue our study by using the bounds testing approach to level relationships. This procedure is the strongest for testing for the existence of a long-run relationship, even if we do not have accurate information about the order of integration of the series. However, Pesaran et al. (2001) suggest that the dependent variable needs to be integrated at order one.

Table 4. Lee and Strazicich Unit Root Test with Two Endogenous Breaks

t-statistic	K	TB2	TB1	Variable
–8.3775*	8	1988	1979	EX
–5.6459	8	1995	1975	IM

Note: 1) The critical values at 1, 5, and 10% are –5.823, –5.286, and –4.989, respectively (Lee &Strazicich, 2002, p.22). 2)*indicates that the corresponding null is rejected at the 1% level.

Bounds Testing Approach to Level Relationship

Pesaran and Shin (1999) and Pesaran et al. (2001) introduced the bounds test for level relationships that can be employed within an *ARDL* specification. This method has several advantages in comparison to other cointegration procedures. First, this approach yields consistent estimates of the long-run coefficients that are asymptotically normal, irrespective of whether the underlying regressors are $I(1)$ or $I(0)$ or fractionally integrated. Thus, the bounds test eliminates the uncertainty associated with pre-testing the order of integration. Second, this technique generally provides unbiased estimates of the long-run model and valid *t*-statistics, even when some of the regressors are endogenous. Third, it can be used with small sample sizes, whereas the Engle–Granger (1987), the Johansen (1988), and Johansen–Juselius (1990) procedures are not reliable with relatively small samples.

Bounds tests can be applied irrespective of the order of integration of the variables (irrespective of whether regressors are purely $I(0)$, purely $I(1)$ or mutually co-integrated) as mentioned before. The *ARDL* modeling approach involves estimating the following error correction models:

$$\Delta lnY_t = a_{0_y} + \sum_{i=0}^{n} b_{i_y} \Delta lnY_{t-i} + \sum_{i=0}^{n} c_{i_y} \Delta lnX_{t-i} + \sigma_{1_y} \ln Y_{t-1} + \sigma_{2_y} \ln X_{t-1} + DU_{76} + DU_{79} + \epsilon_{1t}. \quad (10)$$

In equation (10), Δ is the difference operator, $\ln Y_t$ is the log of the dependent variable, $\ln X_t$ is the log of the independent variable, and ε_{1t} is the serially independent random error term with mean zero and finite covariance matrix.

Again, in Equation (10), the F-test is used for investigating a level (long-run) relationship. In the case of a long-run relationship, the F-test indicates which variable should be normalized. In Equation (10), when Y is the dependent variable, the null hypothesis of no level relationship is H_0: $\sigma_{1Y} = \sigma_{2Y} = 0$ and the alternative hypothesis of a level relationship is H_1: $\sigma_{1Y} \neq \sigma_{2Y} \neq 0$.

4 Empirical Results of Level Relatıonshıps

The results in Table 6 suggest the application of the bounds F-test using the *ARDL* modeling approach and suggest a level relationship in the model where imports are dependent and exports are independent variables. This is because the null hypothesis of $H_0(\sigma_{1Y} = \sigma_{2Y} = 0)$ in equation (6) can be rejected for this model in various lags other than optimum lag level one. Pindyck and Rubinfeld (1991) point out that it would be best to run the test for a few different lag structures and make sure that the results were not sensitive to the choice of lag length. Since the lag levels other than the optimum one have allowed the null hypothesis to be rejected, we conclude that a long run relationship exists between exports and imports when imports are the dependent variable (see also Katircioglu, 2009). The results from the application of the bounds t-test in each *ARDL* model generally allow for the imposition of the trend restrictions in the models since they are statistically significant at some lag levels (see Pesaran et al., 2001).

Based on the results (Tables 5, 6, and 7), the major finding of the present study is that there is a long run equilibrium relationship between exports and imports in Iran: They converge in the long term period. Thus, current account deficits in the case of Iran are sustainable. Long-run estimation can also be seen in Table 7. This result suggests that, in the long run, an increase of export by one percent leads to an increase of import by 1.6477.

Table 5. Critical Values for the *ARDL* Modeling Approach

	0.10		0.05		0.01	
$k = 1$	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
F_{IV}	4.230	4.740	5.043	5.607	7.017	7.727
F_V	5.780	6.540	6.985	7.860	9.895	10.965
F_{III}	4.190	4.940	5.220	6.070	7.560	8.685
t_V	–3.130	–3.400	–3.410	–3.690	–3.960	–4.260
t_{III}	–2.570	–2.910	–2.860	–3.220	–3.430	–3.820

Source: Narayan (2005) for F-statistics and Pesaran et al. (2001) for *t*-ratios.

Notes: (1) *k* is the number of regressors for dependent variables in *ARDL* models; *FIV* represents the F-statistic of the model with unrestricted intercept and restricted trend; F_V represents the *F*-statistic of the model with unrestricted intercept and trend; and F_{III} represents the F-statistic of the model with unrestricted intercept and no trend. (2) t_V and t_{III} are the t ratios for testing $\sigma_{IY} = 0$ in equation (6) with and without deterministic linear trend.

Table 6. The Bounds Test for Level Relationship

	With Deterministic Trends			Without Deterministic Trend		
Variables	F_{IV}	F_V	t_V	F_{III}	t_{III}	Conclusion
(1) F_{IMP} (ln*IMP* / ln*EXP*)						H_0
P = 1*	4.344b	6.449b	–2.860a	3.871a	–2.055a	Rejected
2	4.699b	6.856c	–3.525c	2.592a	–2.128a	
3	5.203c	7.284c	–3.625c	3.007a	–2.312a	
4	5.200c	6.734c	–3.256b	4.151a	–2.611b	

Note: Akaike Information Criterion (*AIC*) and Schwartz Criteria (*SC*) were used to select the number of lags required in the bounds test. p shows lag levels and * denotes optimum lag selection in each model, as suggested by both *AIC* and *SC*. F_{IV} represents the F-statistic of the model with unrestricted intercept and restricted trend, F_V represents the F-statistic of the model with unrestricted intercept and trend, and F_{III} represents the F-statistic of the model with unrestricted intercept and no trend. t_V and t_{III} are the t ratios for testing $\sigma_{IY} = 0$ in equation (6) with and without deterministic linear trend. *a* indicates that the statistic lies below the lower bound, *b* that it falls within the lower and upper bounds, and *c* that it lies above the upper bound.

Table 7: Long-run Estimation

Level Equation with Constant Method: *ARDL*

Dependent Variable: *L1MPORT*

Sample: 1339 1384

Included observations: 46

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	–6.328557	8.137335	–0.777719	0.4409

5 Conclusions

This paper provides new evidence on the Iranian current account deficit sustainability using a bounds testing approach to level relationship. Unit root tests reveal that exports are integrated of order one (this series is non-stationary at level) while imports are integrated of order zero (this series is stationary at level).

Bounds test results suggest that exports in Iran are in a level relationship with imports when imports are the dependent variable; therefore, exports and imports converge in the long-term period. This proves that current account deficits in Iran are statistically sustainable, and the finding of Arize (2002) is supported by bounds testing for this country.

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