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An economic study of the factors affecting date production in Iraq for the period 2004-2023

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Abstract
This study investigated the impact of factors on date production in Iraq for the period 2004-2023. The study aims to understand the impact of the study variables on date production and to clarify the economic importance of date production in Iraq and its ability to provide food and essential industries for the population. Production was taken as a dependent factor, while the independent variables were (number of trees, local price, and world price). A time series stability test revealed the instability of the series. The (ARDL) model was used. The analysis results revealed that the (number of trees) variable was positive and consistent with economic logic, meaning that increasing the number of trees leads to increased production. It was significant. The local price variable was positive and consistent with economic logic, meaning that increasing the price leads to increased production. It was significant. The world price, on the other hand, was negative, inconsistent with economic logic, and insignificant. The study recommends solving production problems by focusing on the quality of local date production, increasing manufacturing projects that consider dates an important material, and supporting private activity in this field. It also recommends introducing modern technological methods and improving agricultural methods and palm tree maintenance processes.

Keywords: Production, number of trees, local price, world price, production, dates, factors

Introduction

Iraq is considered one of the oldest and most famous date-producing countries in the world. Dates are an important part of Iraqi culture and agricultural history. Iraq has suitable climatic conditions and soil for palm cultivation, making it an ideal environment for date production. Iraq produces a diverse range of dates, which play a significant role in the Iraqi economy by providing job opportunities and exporting them to global markets.

It is an important crop, both for direct individual consumption and for its use in various manufacturing applications, such as the production of molasses, vinegar, and sweets. In addition, date pits are used as animal feed.

Research Problem

This type of cultivation suffers from neglect and a lack of attention to palm trees, which has led to a decline in date production, despite Iraq being a country famous for palm cultivation and date production.

Importance of the research

Iraq is considered one of the countries producing dates, occupying a high position in the total global production. It is distinguished by the production of numerous varieties compared to other producing countries. Due to its nutritional and economic importance, palm trees occupy a distinguished position among trees.

Research objective

The research aims to identify the impact of study variables on date production and to highlight the economic importance of date production in Iraq and its ability to provide food and essential industries for the population.

Research hypothesis

The research assumes that date production in Iraq is affected by variables (number of trees,

local price, global price). The number of trees has a positive effect on production, while the local price also has a positive effect on production, and the global price has a negative effect on production. Research Method:
The descriptive approach will be used to study and analyze the economic factors affecting production. The quantitative approach uses a standard analysis method, applying a multiple regression model to analyze the relationship between production and several independent variables (number of trees, local price, global price). Statistical analysis is performed using the Avios program.
Data Sources:
Data was collected from reports from the Iraqi Ministry of Agriculture and reports from the Central Bank of Iraq.

The nutritional and economic importance of the date crop

The palm tree belongs to the palm family, which is one of the oldest fruit trees in the world. Its cultivation is widespread in tropical and subtropical regions. Its cultivation has historically been linked to the Arab world, particularly the Shatt al-Arab and the head of the Arabian Gulf. From there, it spread to all regions with a climate suitable for its cultivation [1].

Economic value of dates

Iraq has the largest areas of palm tree cultivation in the world, and some important date varieties are distinguished by their commercial importance due to the high annual production. Dates play a major role in the national economy by contributing to meeting the food needs of domestic consumers and exporting the surplus abroad for use in food and human consumption, industrial use, and animal feed. The economic importance of palm trees in Iraq is not limited to date production, but rather the role palm groves play in improving the environment, as they form the vegetative cover that protects fruit trees in the central and southern regions of Iraq [2].

Nutritional value of date crop

Nutritional value of dates: Dates are a good source of thermal energy and many essential minerals for the human body, such as iron, calcium, magnesium, and sulfur, in addition to some vitamins. Dates also constitute a raw material that can be relied upon in the manufacture of molasses, vinegar, and sweets. Iraqi dates are a good source of vitamin A and a moderate source of vitamin B. They are also a good source of minerals. Dates provide a very high calorie content compared to other nutrients, as every (100) grams of dates contains (280) calories [3].

The reality of date production in Iraq for the period (2004-2023)

Date production is considered one of the most important agricultural products that Iraq has been known for its success in investing in since a long time ago, so it was called (the land of blackness), as it is considered the oldest home for palm cultivation, and date production in Iraq constitutes one of the dynamic components of the local community movement and its economic development. There are many varieties of dates in Iraq, and the most important varieties of commercial Iraqi dates are Basra dates (Halawi - Khadrawi - Sayer - Zahdi - Dayri - Barim - Jabjab) and dates of the central region (Zahdi - Khastawi - Khadrawi - Ashrasi - Maktoum).
The number of trees on average reached (8946107.05) and reached the highest value (9992737) in (2014) and the lowest value (7214190) in (2005).

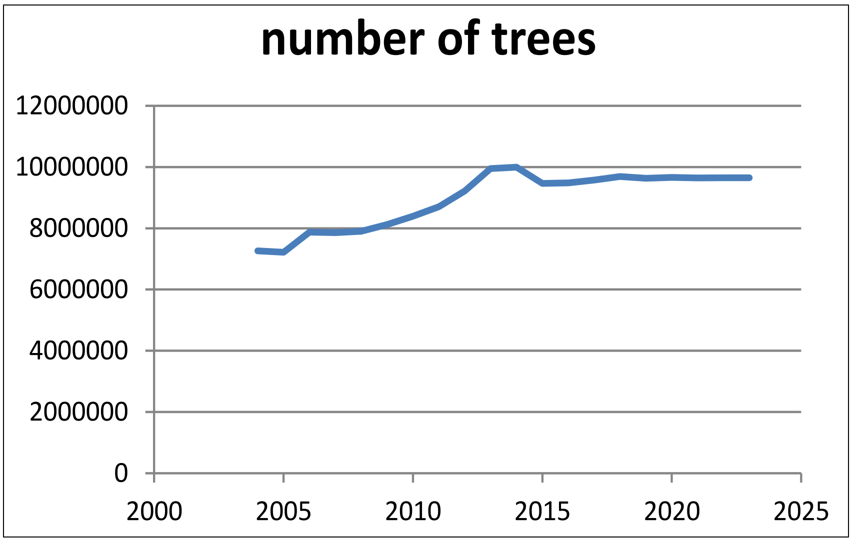

Fig 1: Number of date trees in Iraq

While the average production was (591709.95) and the highest value was (735353) in (2020) and the lowest value was (404032) in (2005).

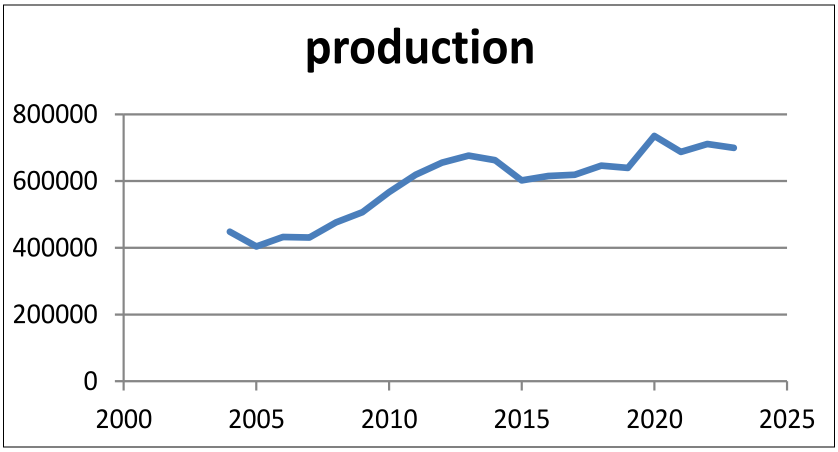

Fig 2: Date production in Iraq

While productivity reached an average of (65.69) and reached the highest value (76.1) in (2020) and the lowest value (54.9) in (2006).

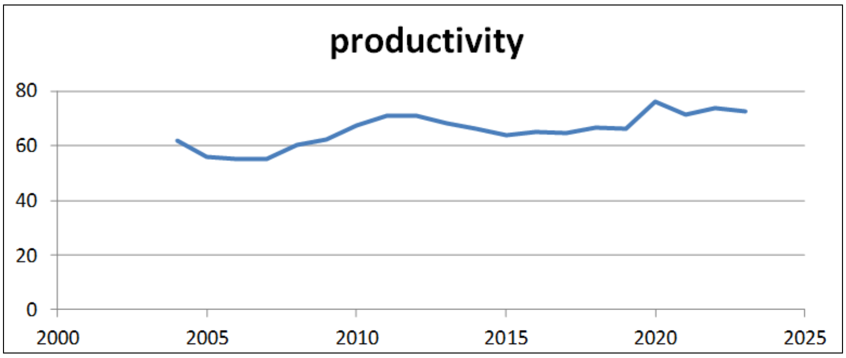

Fig 3: Date productivity in Iraq.

Table 1: Number of trees, production and productivity of the date in Iraq for (2004-2023) [4].

Productivity	production	Number of trees	Years
61.7	448384	7263475	2004
56.0	404032	7214190	2005
54.9	432360	7871677	2006
54.9	430861	7853333	2007
60.3	476318	7901531	2008
62.4	507002	8120634	2009
67.5	566829	8394063	2010
71.1	619182	8705887	2011
71.1	655450	9216494	2012
68.0	676111	9947220	2013
66.3	662447	9992737	2014
63.7	602348	9462880	2015
64.9	615211	9484175	2016
64.6	618818	9572775	2017
66.7	646163	9687601	2018
66.3	639315	9630188	2019
76.1	735353	9658894	2020
71.2	687334	9644541	2021
73.7	711343	9651717	2022
72.4	699338	9648129	2023
65.69	591709.95	8946107.05	Average
76.1	735353	9992737	Highest value
54.9	404032	7214190	Lowest value

Standard theoretical framework

The concept of time series

Time series refers to the absence of a general upward or downward trend in the phenomenon's time course, in addition to the presence of seasonal changes, meaning that its characteristics do not change over time [5].

Time series are statistically defined as "a series of random variables, and they can be expressed mathematically as follows: [6].

Y = f(t). If there are other factors (other explanatory variables) besides the time variable that influence the phenomenon under study, we use the following mathematical relationship): Xn, X2, X1, Y = f(t).

Time series are divided according to their stability into:

Stationary time series:

Time series are stable if they meet the following conditions [7].

Fluctuation around the arithmetic mean is constant over time:

E(Yt)= u … (1)

Consistency of variance of values over time:

Var (Yt) = E(Yt - u) = σ2 … (2)

Covariance between each two values of the same variable depends on the time gap (K) between the values (Yt) and (Yt - k), not on the actual time value at which it is calculated. Covariance.

Yt+k)=E [(Yt - μ)(Yt+k- μ)] … (3)

Yt)=Cov Yk

where μ represents the arithmetic mean, $\sigma 2$ represents the variance, and (Yk) is the coefficient of variation. All of these parameters are constant.

Non-stationary time series

A time series whose mean is constantly changing, either up or down (containing a general trend), i.e., it has a unit root [8].

Graphical analysis of time series

A preliminary idea of the stationarity of time series can be obtained from the applied perspective of any variable by examining the graphical form of the time series. If there is a general trend of the series, whether upward or downward, this indicates a difference in the averages of the sub-samples of the series as a whole. This, therefore, indicates the non-stationarity of the time series, as stationarity requires the stability of the mean values E[y] for each time period [10].

Autocorrelation function test

The autocorrelation function at the gap K is represented by [11].

rho=(cov(y_t y_(t-1))/(var(y_(t-1)^2))

If the autocorrelation coefficient starts at very high levels and then begins to decrease as the number of lags increases, the series is considered stationary and the autocorrelation coefficient is equal to zero. Otherwise, the autocorrelation coefficients must fall within the 95% confidence interval. Otherwise, the series is considered non-stationary.

Unit root test

The most important test for the stationarity of a time series is the unit root test. When a unit root is absent, the series is stationary, and when a unit root is present, the series is non-stationary. The most important unit root test is the Phillips-Perron test (P.P. [11].

$$\Delta Yt = \partial Yt\text{-}1 + \mu t \quad \ldots (3)$$

$$\Delta Yt = \beta 1 + \partial Yt\text{-}1 + \mu t \quad \ldots (3)$$

$$\Delta Yt = \beta 1 + \beta 2\ t + \partial Yt\text{-}1 + \mu t \quad \ldots (3)$$

Equation (1) represents the variable ΔYt without a constant term and without a general trend (i.e., a random walk only equation). Equation (2) includes the presence of a constant term (β1) for the series, while Equation (3) includes the presence of a constant term and a general trend (trend). (t) represents the time variable, or the variable The general trend. In the three cases, the null hypothesis (H0: b = 0) is chosen if the time series of the variable (Yt) is an unstationary series, and we reject the null hypothesis, i.e. we accept the alternative hypothesis (H1: b≠ 0) when the time series of the variable (Yt) is stable, noting that the critical values of (t) differ in each of the previous cases.

Phillips-Perron (PP) test: This test is based on the same tests and models as the Extended Dickey-Fuller (ADF) test. However, it differs from it in that it takes into account errors with heteroscedasticity using a nonparametric correction process for the Extended Dickey-Fuller (ADF) statistic. The ADF test is based on the assumption that the time series is generated by an autoregressive process, while the Phillips-Perron (PP) test is based on a more general assumption, which claims that the time series is generated by an ARIMA (Adaptive Integrated Moving Average) model. Therefore, the Phillips-Perron test has better testing power and is more accurate than the Extended Dickey-Fuller (ADF) test, especially when the sample size is small [12]. However, if the results of the two tests differ and are inconsistent, the Phillips-Perron test is relied upon because it is more sophisticated than the Extended Dickey-Fuller (ADF) test [13].

Cointegration

Cointegration is defined as the association between two or more-time series (Xt) and (Yt), such that fluctuations in one cancel out fluctuations in the other, keeping the ratio of their values constant over time. This may mean that time series data may be unstable when taken individually, but stable as a group. Such a long-term relationship between variables is useful in predicting the value of the dependent variable in terms of a set of independent variables.

Autoregressive Distributed Lag (ARDL) model

The autoregressive distributed lag (ARDL) model is one of the standard models used in cointegration testing using the bounds test. The ARDL model is a combination of two models: the distributed lag model and the autoregressive model [14].

Results and Discussion

The model used for the date production function is as follows:

(X3, X2, Y = F(X1)

Where:

Y = local production (tons).

X1 = number of trees (palm trees).

X2 = local price of dates (dinar/ton).

X3 = world price of dates (dollars/ton).

Steps for estimating the model

Stationality testing of the time series variables

A stationarity test must be conducted for the time series before the estimation process. There are several methods for detecting the stationarity of these variables, namely:

Time series graph

Before testing the time series, it must be plotted graphically as a function of time to determine the type and nature of the series. If this curve shows a general upward or downward trend, this indicates a change in its average over time, i.e., the time series is not stationary. Figure (4) shows the graph of the variables using the linear formula. The variable (X3) was stationary at the level, which indicates that the time series of the two variables are integrated at order zero (I(0)). The other variables (X3, X2) were stationary when their first difference was taken, and they are integrated at order I(1).

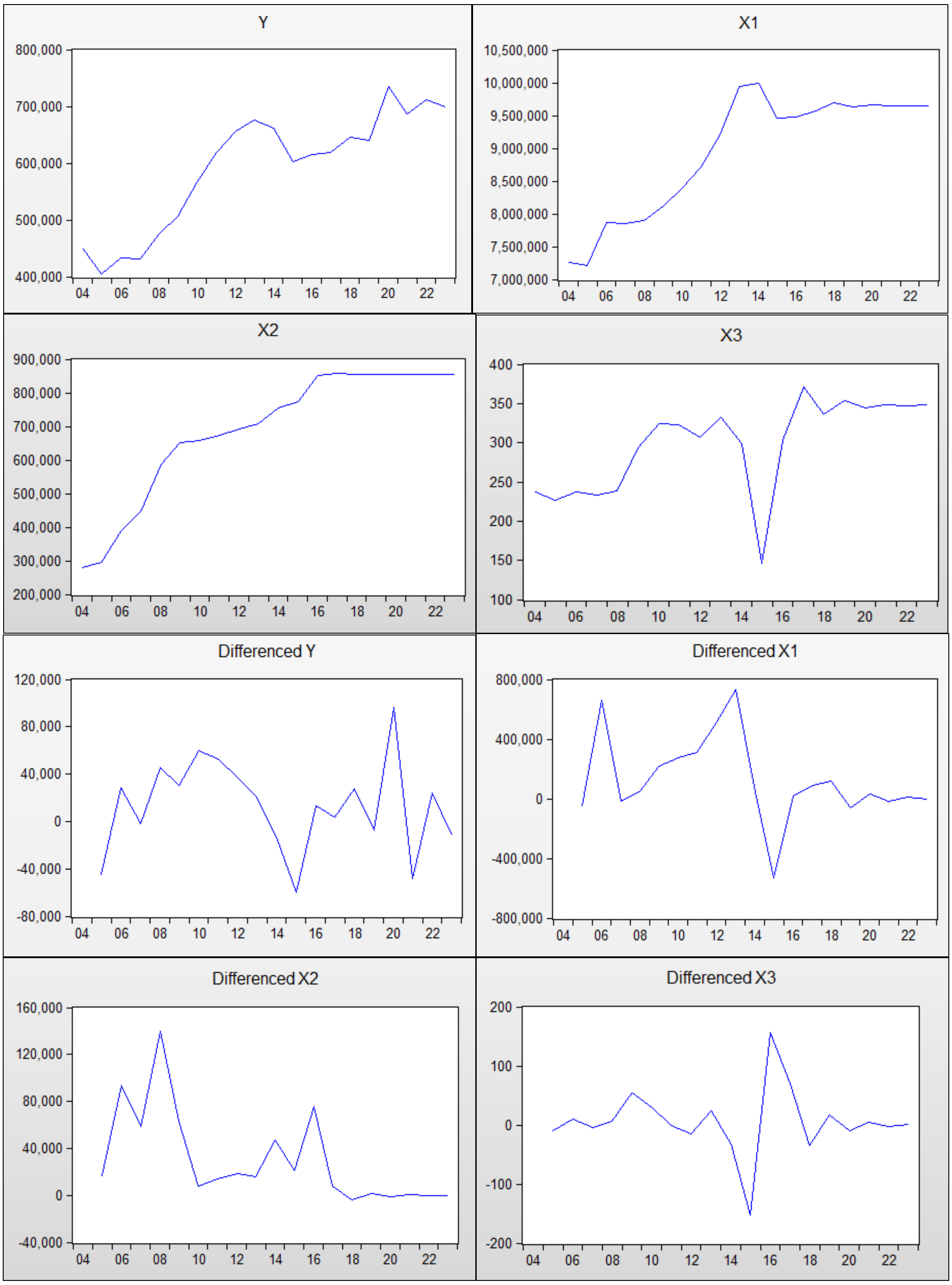

Fig 4: Stability of time series at the level and first difference

Partial Autocorrelation Function (ACF)

According to the shape of the autocorrelation and the significance levels of the residuals, which are around 95%, the series is considered stationary. At the level, the global price variable (X3) was stable because its significance was greater than 5%, while the remaining variables were unstable. However, at the first difference, all variables showed stability and were greater than 5%.

(Y) at level

Sample: 2004 - 2023

Included observation: 19

Auto correlation	Partial correlation	AC	PAC	Q-Stat	Prop
		-0.130	-0.130	0.3736	0.541
		0.334	0.323	2.9931	0.224
I I	I I	-0.281	-0.238	4.9652	0.174
I I	I I	-0.069	-0.245	5.0913	0.278
I I	I I	-0.442	-0.375	10.661	0.059
I I	I I	-0.068	-0.158	10.804	0.095
I I	I I	-0.075	0.090	10.991	0.139
I I	I I	0.107	-0.012	11.407	0.180
I I	I I	0.074	-0.130	11.624	0.235
I I	I I	0.217	-0.008	13.718	0.186
		-0.092	-0.208	14.144	0.225
		0.079	-0.032	14.500	0.270

(Y) at the difference
Sample: 2004 - 2023
Included observation: 19

Auto correlation		Partial correlation		AC	PAC	Q-Stat	Prop
				0.848	0.848	16.658	0.000
				0.656	-0.225	27.185	0.000
I	I	I	I	0.434	-0.214	32.061	0.000
I	I	I	I	0.201	-0.179	33.176	0.000
I	I	I	I	0.045	0.125	33.236	0.000
I	I	I	I	-0.047	0.056	33.307	0.000
I	I	I	I	-0.084	0.016	33.545	0.000
I	I	I	I	-0.058	-0.022	33.768	0.000
I	I	I	I	-0.058	-0.025	33.903	0.000
I	I	I	I	-0.071	-0.157	34.127	0.000
				-0.139	-0.218	35.077	0.000
				-0.239	-0.128	38.208	0.000

Autocorrelation X1 at level

Auto correlation		Partial correlation		AC	PAC	Q-Stat	Prop
				0.220	0.220	1.0772	0.229
				-0.126	-0.184	1.4518	0.484
I	I	I	I	-0.075	-0.001	1.5904	0.662
I	I	I	I	0.018	0.016	1.5994	0.809
I	I	I	I	-0.051	-0.080	1.6746	0.892
I	I	I	I	0.006	0.048	1.6759	0.947
I	I	I	I	0.187	0.172	2.8342	0.900
I	I	I	I	-0.077	-0.191	3.0510	0.931
I	I	I	I	-0.327	-0.236	7.3203	0.604
I	I	I	I	-0.079	0.060	7.5993	0.668
				-0.060	-0.182	7.771	0.733
				-0.014	0.036	7.7879	0.801

Autocorrelation X1 at difference

Auto correlation		Partial correlation		AC	PAC	Q-Stat	Prop
				0.845	0.845	16.549	0.000
				646	-0.239	26.760	0.000
I	I	I	I	0.511	0.133	33.509	0.000
I	I	I	I	0.363	-0.214	37.123	0.000
I	I	I	I	0.202	-0.077	38.318	0.000
I	I	I	I	0.049	-0.137	38.394	0.000
I	I	I	I	-0.086	-0.078	38.646	0.000
I	I	I	I	-0.215	-0.144	40.344	0.000
I	I	I	I	-0.294	0.058	43.792	0.000
I	I	I	I	-0.300	0.076	47.743	0.000
				-0.301	-0.074	52.181	0.000
				-0.329	-0.126	58.147	0.000

Autocorrelation X2 at level

Auto correlation		Partial correlation		AC	PAC	Q-Stat	Prop
				0.400	0.400	3.5525	0.059
				0.317	0.187	5.9106	0.052
I	I	I	I	-0.019	-0.243	5.9200	0.116
I	I	I	I	-0.133	-0.148	6.3919	0.172
I	I	I	I	-0.060	0.147	6.4931	0.261
I	I	I	I	-0.005	0.082	6.4938	0.370
I	I	I	I	0.015	-0.090	6.5017	0.483
I	I	I	I	0.252	0.285	8.8074	0.359
I	I	I	I	-0.062	-0.301	8.9616	0.441
I	I	I	I	-0.012	-0.093	8.9685	0.535
				-0.201	0.006	10.993	0.444
				-0.212	-0.066	13.553	0.330

Autocorrelation X2 at difference

Auto correlation		Partial correlation		AC	PAC	Q-stat	Prop
				0.832	0.832	16.039	0.000
				0.633	-0.192	25.847	0.000
I	I	I	I	0.453	-0.051	31.167	0.000
I	I	I	I	0.286	-0.091	33.423	0.000
I	I	I	I	0.188	0.099	34.457	0.000
I	I	I	I	0.113	-0.053	34.855	0.000
I	I	I	I	0.025	-0.118	34.876	0.000
I	I	I	I	-0.070	-0.111	35.054	0.000
I	I	I	I	-0.160	-0.061	36.079	0.000
I	I	I	I	-0.248	-0.099	38.777	0.000
				-0.307	-0.044	43.396	0.000
				-0.354	-0.104	50.298	0.000

Autocorrelation X2 at difference

Auto correlation		Partial correlation		AC	PAC	Q-stat	Prop
				0.400	0.400	3.5525	0.059
				0.317	0.187	5.9106	0.052
I	I	I	I	0.019	-0.243	5.9200	0.116
I	I	I	I	-0.133	-0.148	6.3919	0.172
I	I	I	I	-0.060	0.147	6.4931	0.261
I	I	I	I	-0.005	0.082	6.4938	0.370
I	I	I	I	0.015	-0.090	6.5017	0.483
I	I	I	I	0.252	0.285	8.8074	0.359
I	I	I	I	-0.062	-0.301	8.9616	0.441
I	I	I	I	-0.012	-0.093	8.9685	0.535
				-0.201	0.006	10.993	0.444
				-0.212	-0.066	13.553	0.330

Autocorrelation X3 at level

Auto correlation		Partial correlation		AC	PAC	Q-stat	Prop
				-0.193	-0.193	0.8279	0.363
				-0.400	-0.454	4.5830	0.101
I	I	I	I	0.179	-0.027	5.3861	0.146
I	I	I	I	-0.066	0.267	-5.5030	0.239
I	I	I	I	-0.130	-0.195	5.9821	0.308
I	I	I	I	-0.072	-0.420	6.1406	0.408
I	I	I	I	0.186	-0.168	7.0810	0.420
I	I	I	I	0.075	-0.252	7.2871	0.506
I	I	I	I	-0.051	-0.145	7.3899	0.597
I	I	I	I	0.047	-0.181	7.4879	0.679
				-0.039	-0.203	7.5656	0.752
				-0.025	-0.185	7.6020	0.815

Autocorrelation X3 at difference

Auto correlation		Partial correlation		AC	PAC	Q-stat	Prop
				0.492	0.482	5.6103	0.018
				0.141	-0.134	6.0947	0.047
I	I	I	I	0.150	0.185	6.6800	0.083
I	I	I	I	-0.016	-0.224	6.6868	0.153
I	I	I	I	-0.135	-0.023	7.2212	0.205
I	I	I	I	-0.079	-0.008	7.4161	0.284
I	I	I	I	0.037	0.133	7.4630	0.382
I	I	I	I	0.049	-0.014	7.5528	0.478
I	I	I	I	0.109	0.123	8.0295	0.531
I	I	I	I	0.119	-0.056	8.6510	0.566
				0.022	-0.029	8.6740	0.652
				-0.182	-0.272	10.491	0.573

Unit root test using the Phillips-Perron method

This test examines the stability of the model variables. The results of Table (2) indicate the stability of the series of variables at the level, and when taking the first difference, the variables were not stable.

Table 2: Unit root test using Phillips-Perron method

Level			
Variable	**Without a constant or direction**	**Fixed and directional**	**Fixed**
Y	0.9329	0.6341	0.6993
X1	0.9736	0.9002	0.3688
X2	0.9615	0.9291	0.0276
X3	0.8801	0.1340	0.2078
First Difference			
Variable	**Without a constant or direction**	**Fixed and directional**	**Fixed**
Y	0.0003	0.0060	0.0015
X1	0.0079	0.0400	0.0358
X2	0.0592	0.0172	0.1076
X3	0.0000	0.0000	0.0000

Initial estimation of the autoregressive distributed lag (ARDL) model.

The initial estimation of the autoregressive distributed lag (ARDL) model was performed using the Eviews 10 statistical program. After confirming the non-stationarity of the time series of the variables at the level, we noted from Table (3) that the value of the adjusted coefficient of determination (Adjusted R2) equals 0.92, meaning that the independent variables in the model explain approximately 92% of the changes in the dependent variable. This indicates the influence of the independent factors within the model, while 8% represents variables outside the model. The calculated F-test value equals 39.77, which indicates that the estimated model is significant as a whole and can be relied upon.

Table 3: Results of the initial estimation of the (ARDL) model

Variable	Coefficient	Std. Error	t-Statistic	Prob*
Y(-1)	0.509332	0.208802	2.439309	0.0312
X1	0.070161	0.031018	2.261937	0.0431
X1(-1)	-0.072293	0.038196	-1.892662	0.0828
X2	0.259972	0.123395	2.106838	0.0569
X3	-7.982084	207.9621	-0.038382	0.9700
X3(-1)	248.3055	158.0755	1.570803	0.1422
C	55844.02	154354.8	0.361790	0.7238

R- Squared	0.952121	**Mean dependent var**	599253.4
Adjusted R-Squared	0.928182	**S.D dependent var**	101598.1
S.E of regression	27224.68	**Akaike info criterion**	23.53895
Sum Squared reside	8.89E+09	**Schwarz criterion**	23.88690
Log likelihood	-216.6200	**Hannan-Quinn Criteria**	23.59783
F-Statistic	39.77240	**Durdin-Watson Stat**	2.722480
Prob(F-Statistic)	0.000000		

Dependent: Y
Method: ARDL
Sample: 2005 - 2023
Included observation: 19
Selected model: ARDL (1,1,0,1)

The results showed that the variable (number of trees) was positive, meaning that increasing the number of trees by (1%) leads to an increase in production by (0.070), and it was significant according to the test (t). As for the local price variable, it was positive, meaning that increasing the price by 1% leads to an increase in production by (0.259), and it was significant according to the test (t). As for the global price, it was negative and not significant.

Cointegration testing using bounds testing. The bounds testing approach was used. This method relies on the F-statistic to confirm the presence of cointegration. The null hypothesis (H0:b=0) stating that there is no cointegration between the model variables is tested against the alternative hypothesis (H1:b≠0) stating that there is co-integration between the variables. Table (4) shows that the F-statistic of (3.2822) was higher than the upper limit of the critical values in the model, which were obtained from the tables at significance levels (1%, 2.5%, 5%, 10%). This means that the alternative hypothesis (H1:b≠0) is accepted at the three significance.

Levels, i.e., the presence of cointegration between the significant variables.

ARDL bounds test
Date: 02l13l25
Time: 12:57
Sample: 2005 2023
Included observations: 19
Null hypothesis: No long -run relationships exist

Test	Statistic	Value K
F-statistic	3.282263	3

Critical value bounds

Significance	10 Bound	11 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Diagnostic tests

After obtaining the short- and long-term relationship for the date production function using the ARDL model, the study model is then evaluated to determine its efficiency through the following diagnostic tests:

Autocorrelation test

Through this test, the absence of an autocorrelation problem in the model is confirmed using the LM test. Table (5) shows that there is no autocorrelation problem, as the value of the F-statistic reached (2.20) at a probability level of (0.16), which is a probability level greater than (5%). The corresponding value of (Obs*R-Squared) reached (5.80) at a probability level of (0.05), which is also greater than (5%). From this, we accept the null hypothesis stating that there is no autocorrelation problem.

Breusch-Godfrey serial correlation LM test

Table 5: Breusch-Godfrey serial correlation (LM) test for autocorrelation

F-Statistic	2.202013	Prob. F (2, 10)	0.1613
Obs* R-Squared	5.809243	Prob. Chi-Square (2)	0.0548

Heteroskedasticity Test

This test ensures that the model is free of the problem of heteroskedasticity using the Heteroskedasticity Test. Table (6) shows that the model does not suffer from the problem of heteroskedasticity, as the F-statistic value reached 6.12 at a probability level of 0.65, which is a probability level greater than 5%. The corresponding Obs*R-Squared value reached 4.93 at a probability level of 0.55, which is also greater than 5%. Therefore, we can accept the null hypothesis of the absence of heteroskedasticity.

Heteroskedasticity test Breusch - Pagan - Godfrey

Table 6: Breusch-Pagan-Godfrey heteroskedasticity test for the hypothesis of heteroskedasticity

F-statistic	0.700914	Prob. F (6, 12)	0.6547
ObS*R-squared	4.930690	Prob. Chi. Square (6)	0.5527
Scalaed explained SS	3.844314	Prob. Chi. Square(6)	0.6977

Conclusion

1. The results revealed that the variable (number of trees) was positive and consistent with economic logic, meaning that increasing the number of trees leads to increased production, and it was significant.
2. The local price variable was positive and consistent with economic logic, meaning that increasing the price leads to increased production, and it was significant.
3. The global price variable was negative and insignificant.

Recommendations

1. Solve production problems by focusing on the quality of local date production.
2. Increase manufacturing projects that rely on dates as a raw material and support private sector activity in this field.
3. Introduce modern technological methods and improve agricultural practices and palm tree maintenance processes.

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