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Article

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Growth-finance nexus in oil abundant GCC countries of MENA region

Mohammad Imdadul Haque^{1*}, Bashir Umar Faruk² and Mohammad Rumzi Tausif³

Abstract: Economic growth and financial development are intrinsically related. Literature provides evidence that economic growth leads to financial development and financial development also leads to economic growth. The study analyzes this association between economic growth and financial development considering institutions for countries with substantial oil rents. The study uses the Pedroni test for cointegration, Granger causality, Ordinary Least Squares (Panel, Fully Modified, and Dynamic) methods to study the relationship on a panel data of six countries from 2000 to 2019. The study proceeds with the hypothesis that economic growth leads to financial development in countries having oil rents. The study finds that economic growth has a significant positive impact on the financial sector development of the GCC countries and not vice versa. The study also reports that poor institutional quality constraints the contribution of oil rents to financial development. The results imply that in countries accruing oil rent, the quality of institutions needs to be improved for furthering the cause of financial development. Although the study advances the empiricism on the link between economic growth and financial development, incorporating institutions and oil rents is the study's novelty.

Subjects: Economics; Political Economy; Finance

Keywords: Economic growth; financial development; oil rents; institutions

JEL Classifications: F43; G00; C3

1. Introduction

The Gulf Cooperation Council (GCC) countries are unique because they are oil-producing countries with high levels of income but developing in nature. Financial development with economic growth is essentially different in resource-rich countries (Samargandi et al., 2014). Theoretically, they are supposed to be afflicted with the natural resource curse (Sachs & Warner, 1995). The performance of macroeconomic policies depends on the performance of financial markets. An effective financial system is an essential factor that aids in compensating for resource curse by routing the revenues from oil to economically prudent activities (Law & Moradbeigi, 2017). Towards this governance and institutions of all types, including financial institutions, play a crucial role (Shadrokh & Zamanzadeh, 2017).

The GCC countries are oil-based. These countries have experienced high growth rates. Oil rents have ensured sufficient liquidity in the economy. All the countries are financially rich. They have a modern financial system (Hamdi et al., 2014). The financial sector is dominated by thoroughly capitalized banks and is making profits. Retail banking is highly profitable. Oil revenues ensure adequate liquidity in the economy, ensuring funding of infrastructure, manufacture and the private sector (Muhammad et al., 2016). But as a caution, abundant finance may lead to misallocation of

resources towards projects with poor return and stimulate boom-bust short cycles, which would hamper economic growth in the long run (Botev et al., 2019).

The relationship between economic growth and financial development was originally identified by Schumpeter, [1911] (2008)) and has been later established by McKinnon (1973), Shaw (1973), Greenwood et al., (2013), and King and Levine (1993). Also, there are divergent views about the actual relationship between economic growth and financial development, formulated four hypotheses: supply-leading hypothesis (finance promotes economic growth), Demand-following hypothesis (economic growth drives finance), Feedback hypothesis (finance and economic growth are interdependent) and Neutrality hypothesis (no causal linkage between finance and economic growth (Patrick, 1966; Lucas, 1988).

The study proceeds with the “demand following” hypothesis that economic growth impacts financial development in countries with substantial oil rent. The study also investigates the “supply leading” phenomenon, which indicates that financial development affects economic growth. Institutions are currently instrumental in explaining economic growth (Rizvi, 2019; Soyigiti, 2019). More specifically, in oil-exporting countries, institutions play an essential role in directing oil rents to economic growth (Frankel, 2010; Mehlum et al., 2006; Shadrokh & Zamanzadeh, 2017). Towards this, the study further aims to incorporate the element of institutions in the model.

2. Literature review

Past studies have tried to study the finance-growth nexus for the GCC countries. Darrat et al., (2005) included two countries of GCC, namely, Saudi Arabia and the United Arab Emirates, for the period 1964–1993. For Saudi Arabia, the study finds bidirectional causality between financial deepening and economic growth. At the same time, for UAE, there was a weak relationship between financial deepening and economic growth. In a related study, Sbeiti et al. (2013) found that financial sector development had a positive and significant relationship with economic growth for 1975–2003 (excluding Qatar). Similar results were reported for 1980 to 2005 by Hassan et al. (2011) and for 1975 to 2012 by Muhammad et al., (2016). In another study on 63 oil-producing countries from 1980 to 2010, Law and Moradbeigi (2017) found that the interaction of oil resource abundance and financial development had a significant and positive impact on economic growth. Other studies found bi-directional causality between economic growth and financial development for 1980–2012 (Hamdi et al. 2014).

In a study by Duasa (2014), three GCC countries, Bahrain, Kuwait, and Saudi Arabia, did not report a causal relationship between financial development and economic growth. A related study on the MENA region, which included GCC countries from 1980 to 2014, found that financial growth did not lead to economic growth. In a related survey of GCC countries (excluding Oman), Grassa and Gazdar (2014) found that from 1996 to 2011 that financial sector development, in general, had no impact on economic growth. It further differentiated between conventional banking and Islamic banking. It found that the former had no significant effect on economic growth. In contrast, the latter had a significant and positive impact on economic growth.

Individual country studies on the countries of the GCC region have also reported conflicting results. Ageli and Zaidan (2013) found a positive relationship between financial sector development and economic growth in the Saudi economy over the period 1970–2012. Ibrahim (2013) found a positive relationship between domestic credit and economic growth in the long run from 1989 to 2008. Marashdeh and Al-Malkawi (2014) found a positive relationship between financial depth measured by M2 as a percentage of GDP and economic growth from 1970 to 2010. Samargandi et al. (2014) found a positive relationship between financial development and the non-oil sector, while the relationship was insignificant or negative in the oil sector in Saudi Arabia for the period 1968 to 2010. Haque (2020) found a positive relationship between bank credit to the private sector and a negative relationship of money supply, with the private sector growth in Saudi Arabia for the period 1985–2018.

Darrat and Al-Sowaidi (2010) found that real economic growth is robustly linked in the long run, with financial deepening in Qatar from 1993 to 2006. A related study on UAE by Al-Malkawi et al. (2012) found financial development negatively associated with economic growth from 1974 to 2008. Altaee et al. (2014) found that economic growth caused financial effects for Oman from 1972 to 2012. Alkhuzaim (2014) found a positive long-run equilibrium between financial development and economic growth in Qatar from 1990 to 2012. Abduh et al., (2012) found that Bahraini conventional finance has a significant relationship with their economic growth, both in the long run and short run in the long run for 2000 to 2010. Rehman et al. (2015) found no relationship between financial development and economic growth in Bahrain from 1981 to 2013. Almassri et al. (2020) find bidirectional causality between financial development and economic growth for Kuwait over the period 1991 to 2017.

Earlier studies have used different proxies for financial development. Out of the various concepts of money supply, M2 as a percentage of GDP has been used an indicator of financial sector development by Darrat and Al-Sowaidi (2010); Al-Malkawi et al. (2012), Alkhuzaim (2014); Marashdeh and Al-Malkawi (2014), Hamdi et al. (2014), Rehman et al. (2015) and Muhammad et al., (2016). Other studies used M3 as a proportion of GDP like Hassan et al. (2011), Ageli and Zaidan (2013), Sbeiti et al. (2013), and Law and Moradbeigi (2017).

Some studies have used both two concepts of money supply like both M1 and M2 was used by Darrat (1999), while some studies used a composite measure of financial development including M2 to nominal GDP, M3 to nominal GDP and private sector credit to nominal GDP (Samargandi et al., 2014). Almassri et al. (2020) used principal component analysis to measure financial development using M2, M3, bank deposit and domestic credit as a proportion of GDP.

The domestic credit provided by the banks to the private sector as a ratio of GDP has been used as an indicator of financial sector development by Al-Malkawi et al. (2012); Ibrahim (2013), Sbeiti et al. (2013), Alkhuzaim (2014), Duasa (2014), and Hamdi et al. (2014); (Altaee et al., 2014); Muhammad et al. (2015); and (Law & Moradbeigi, 2017). In another study by Ageli and Zaidan (2013) stock market was used as an indicator of financial development. In a study by Ayad and Belmokaddem (2017), the Kaopen index and Lane and Milesi-Ferreti index were used as indicators of financial development. Total loans and total deposits were used by Abduh et al. (2012).

While Gross Domestic Product (GDP) was used as a proxy for economic growth Darrat and Al-Sowaidi (2010); Abduh et al. (2012) Ageli and Zaidan (2013); (Altaee et al., 2014); Rehman et al. (2015) real per capita GDP as a proxy of economic growth was used by Grassa and Gazdar (2014); Duasa (2014); Hamdi et al. (2014); (Samargandi et al., 2014); Almassri et al. (2020). Other studies by Sbeiti et al. (2013); Alkhuzaim (2014); Muhammad et al. (2015); Law and Moradbeigi (2017); Ayad and Belmokaddem (2017) took the growth rate of real GDP per capita as the proxy for economic growth.

Studies have used a range of control variables. Investment ratio, Government spending, Trade openness, Oil prices were used as control variables by (Sbeiti et al. (2013). Exports were used by Ageli and Zaidan (2013) as a control variable; Investment, inflation was used by Duasa (2014); gross fixed capital formation to GDP ratio was used by (Hamdi et al., 2014). Samargandi et al. (2014) used government expenditure, investment share in GDP, oil price, inflation, and openness to trade as control variables. Grassa and Gazdar (2014) used Initial level of development, Trade openness, and Government consumption. Muhammad et al. (2015) used the control variables: FDI, Oil production, trade openness, foreign direct investment, government expenditure, inflation, and fixed capital formation. Law and Moradbeigi (2017) used human capital, government expenditure, inflation, investment as the control variable.

Broadly two categories of methods were used by studies. Multiple country studies with panel data used fully modified ordinary least squares FMOLS; Linear panel models of random effect and

fixed effect GLS and system GMM (Ibrahim (2013); Sbeiti et al. (2013); estimation and used static and dynamic panel data including system GMM (Muhammad et al. 2015); and (Grassa and Gazdar (2014). Panel cointegration techniques were used by Hamdi et al. (2014), Ayad and Belmokaddem (2017), and Law and Moradbeigi (2017). Individual country studies used Engle-Granger test for cointegration and Granger causality Darrat (1999); Cointegration and Gonzalo and Granger test Darrat and Al-Sowaidi (2010); cointegration and Granger causality by ; Altaee et al., (2014); Vector Autoregressive framework used by Duasa (2014); Toda and Yamamoto test used by Hassan et al. (2011); Johansen cointegration used by Ageli and Zaidan (2013), Abduh et al. (2012), Rehman et al. (2015) and ARDL used by Al-Malkawi et al. (2012); Marashdeh and Al-Malkawi (2014); and (Samargandi et al., 2014); and Toda–Yamamoto and, Breitung and Candelon spectral Granger causality test Almassri et al. (2020).

3. Data and methods

To investigate the growth-finance nexus in oil abundant GCC countries, this study utilizes the time series secondary data for the most widely used financial development measures, namely, Domestic Credit to Private Sector by Banks (DCP) and Money Supply (M2) (% of GDP). At the same time, Gross Domestic Product (GDP) represents economic growth. Control variables are Oil Rent (OILR), institutions (INST) and the interaction term of Oil rent and Institution (OILR*INST) for six (6) GCC countries, comprising of Saudi Arabia, Bahrain, Kuwait, Oman, Qatar and UAE.

The data set, which spans from 2000 to 2019, is sourced from World Development Indicators (WDI) based on complete data for all the variables. The data were first transformed into log forms except for INST and OILR*INST, which are retained at their original or raw values. To begin with, the study examines the stationarity and cointegration of economic growth and financial development based on Pedroni cointegration test analysis. To further explore the linkage between economic growth and financial development, the study employs descriptive statistics, Panel OLS regression (POLS), Fully-Modified OLS (FMOLS) and Dynamic OLS (DOLS). Granger causality test is also used in the analysis to determine the direction of the causality between the variables of interest.

The Error Correction Model (ECM) used to test the null hypothesis of no-cointegration is specified as:

$$\Delta y_{it} = \alpha_i + \delta_i z_{i,t-1} + \sum_{j=0}^{l\Delta x} \beta_{ij} \Delta x_{i,t-j} + \sum_{j=1}^{l\Delta y} \gamma_{ij} \Delta y_{i,t-j} + \mu_{it} \quad (1)$$

where the null hypothesis is $H_0: \delta_i = 0$ and alternate hypothesis is $H_a: \delta_i \neq 0$.

However, Kao (1999) brought forward an extension of the Engle and Granger (1987) cointegration test that stems from individual time series to panel cointegration, a test for the null hypothesis of no-cointegration based on ADF-type unit root test, which is a residuals-based test. Pedroni (2004) has also proposed different tests for the null hypothesis of no-cointegration under the panel data cointegration model. Moreover, Pedroni (2004) developed a panel cointegration technique to estimate the long-run relationship between the variables. Therefore, the cointegration relationship for estimation is:

$$LDCP_{it} = \alpha_i + \delta t + \beta_1 LGDP_{it} + \beta_2 LM2_{it} + \beta_3 LOILR_{it} + \beta_4 INST_{it} + \beta_5 OILR * INST_{it} + \varepsilon_{it} \quad (2)$$

The equation α_i represents country effects, δt refers to trend effect. At the same time, ε_{it} stands for the estimated residuals showing deviations from the long-run relationship.

The Panel OLS model is also specified to reflect Patrick (1966) demand-following hypothesis to test whether economic growth drives financial development in GCC countries in the following form:

$$LDCP_{it} = \alpha + \beta_1 LGDP_{it} + \beta_2 LM2_{it} + \beta_3 LOILR_{it} + \beta_4 INST_{it} + \beta_5 OILR * INST_{it} + \varepsilon_{it} \quad (3)$$

where:

LDCP = log of Domestic Credit to Private sector by Banks (% of GDP)

LGDP = Log of GDP (constant US dollar)

LM2 = Log of Money Supply (% of GDP)

LOILR = Log of oil rents (% of GDP)

INST = Institutions represent “Voice and Accountability; Political Stability and Absence of Violence/Terrorism; Government Effectiveness; Regulatory Quality; Rule of Law; Control of Corruption” (<https://info.worldbank.org/governance/wgi/>).

OILR*INST = multiplicative/interactive term of oil rents and institution.

Except for institutions (INST), all the data is ratio in nature. Taking log of such data is an accepted econometric practice. But, the data on institutions (INST) is on a scale of –2.5 to 2.5. Log of negative values cannot be taken; as for taking log of a number it must be a positive real number. Because of this reason, the variables institutions (INST) and the interaction term of Oil rent and Institution (OILR*INST) are not in log form.

4. Result and discussion

The panel unit root tests are employed to ascertain the stationarity status of the variables, using ADF and PP unit root test. The result is presented below:

The result from the unit root test indicate that all the variables (DCP, GDP, M2, OILR and OILR*INST) are non-stationary at level, except INST, which is stationary at 5% probability level, under ADF-Fisher Chi-square. On the other hand, PP test shows that all the variables are only stationary at the first difference for 1% probability value with intercept and trend. However, based on the combined results, the variables are concluded to be I(1) as presented in Table 1. Therefore, we undertake a cointegration test using Pedroni to ascertain whether the variables that are found to be non-stationary can have a long-run cointegration relation or not, under the null hypothesis of non-cointegration. The panel cointegration test result is presented in Table 2.

Pedroni cointegration test result presented above shows that out of seven within-dimension and between-dimension tests, only one is statistically significant at 5% probability level under normal statistics. Similarly, from the entire four within-dimension tests under the weighted statistics, none is statistically significant even at a 10% significant level. Therefore, we accept the null hypothesis and conclude that the variables are not cointegrated. In other words, no long-run cointegration relation exists between domestic credit to private sector by banks (DCP), gross domestic product (GDP), money supply (M2), oil rents (OILR), institution/governance (INST) and the interactive term of oil rents and institution (OILR*INST). Based on the one existing long-run relationship between the variables, the study undertakes a panel regression to establish the impact of the explanatory variables, namely, GDP, M2, OILR, INST and OILR*INST on the dependent variable (DCP) as well as the significant or otherwise of their relationship at either 1% or 5% probability values. The three panel regression results are presented in Table 3.

Panel regression results in Table 3 indicated that GDP, M2, and OILR*INST positively impact DCP in all three models (POLS, FMOLS and DOLS). That a unit increase in any of the Gross Domestic Product (GDP), money supply (M2), and the interaction term (OILR*INST) will lead to an increase in

Table 1. Panel unit root test results

Variables	ADF-Fisher Chi-Square		PP-Fisher Chi-Square		Decision
	Level (Intercept and Trend)	First Difference (Intercept and Trend)	Level (Intercept and Trend)	First Difference (Intercept and Trend)	
LDCP	15.792 (0.2009)	35.429 (0.0004) ***	6.59086 (0.8834)	28.9617 (0.0040)***	I(1)
LGDP	6.95359 (0.8607)	23.1861 (0.0262)**	1.80696 (0.9996)	34.3335 (0.0006)***	I(1)
LM2	21.0337 (0.0499)	50.4820 (0.0000)***	9.61343 (0.6498)	68.8278 (0.0000)***	I(1)
LOILR	11.2428 (0.5082)	36.8226 (0.0002)***	6.78351 (0.8716)	37.6223 (0.0002)***	I(1)
INST	26.3795 (0.0095)**	62.1023 (0.0000)***	20.2241 (0.0630)	69.2809 (0.0000)***	I(1)
OILR*INST	15.8623 (0.1976)	35.4901 (0.0004)***	12.9036 (0.3761)	46.4138 (0.0000)***	I(1)

Source: Calculated using Eviews 9

***and** denote significant at 1% and 5% levels. Values in Parenthesis are p-values

Table 2. Panel cointegration test result-pedroni

Pedroni residual Co integration test		Statistic (P-value)	Weighted statistic (P-value)
Within-Dimension (Panel) Between-Dimension (Group)	Panel v-statistic	-1.3479 (0.9112)	-1.1843(0.8819)
	Panel rho-statistic	2.8217 (0.9976)	2.6595(0.9961)
	Panel PP-statistic	1.1877(0.8825)	0.3603(0.6407)
	Panel ADF-statistic	0.8985(0.8155)	-0.4513(0.3259)
	Group rho-statistic	3.5444(0.9998)	
	Group PP-statistic	-2.6620(0.0039)***	
	Group ADF-statist	-0.7465(0.2277)	

Source: Calculated using Eviews 9

Table 3. Panel regression results

DCP (Dependent variable)	Panel OLS Coefficient(P-value)	FMOLS Coefficient(P-value)	DOLS Coefficient(P-value)
LGDP	0.002(0.949)	0.259(0.000)***	0.284(0.000)***
LM2	0.974(0.000)***	0.886(0.000)***	0.710(0.000)***
LOILR	0.005(0.890)	-0.036(0.623)	-0.149(0.180)
INST	-0.033(0.284)	-0.077(0.003)***	-0.081(0.0266)**
OILR*INST	0.002(0.073)	0.001(0.080)-	0.0005(0.562)-
C	-0.134(0.835)		
R-Square	0.683	0.937	0.960
Adjusted R-Square	0.667	0.929	0.928
Long-Run Variance		0.011	0.006

Source: Calculated using E-views 9.0 ** and *** denotes significant at 5% and 1% significant levels

the domestic credit to the private sector by Banks (DCP) in GCC countries. Although the relationship between GDP and DCP, also M2 and DCP, is found to be statistically significant at a 1% probability value in both FMOLS and DOLS, only GDP is, however, found to be statistically insignificant in the Panel OLS. This means that economic growth has a significant positive impact on the financial sector development in GCC countries.

This finding strongly agrees with the demand-followed hypothesis that economic growth accelerates financial sector development. This result provides empirical evidence to support that

Table 4. Granger causality test result

Null Hypothesis (Does not Granger cause. It is indicated by the sign $\Rightarrow$)	Obs	F-statistics	Prob.
LGDP $\Rightarrow$ LDCP	101	1.35595	0.2626
LDCP $\Rightarrow$ LGDP		3.24385	0.0433**
LM2 $\Rightarrow$ LDCP	99	2.76379	0.0682
LDCP $\Rightarrow$ LM2		4.13839	0.0189**
LOILR $\Rightarrow$ LDCP	101	0.24897	0.7801
LDCP $\Rightarrow$ LOILR		0.26033	0.7713
INST $\Rightarrow$ LDCP	86	0.08322	0.9202
LDCP $\Rightarrow$ INST		0.36965	0.6921
OILR*INST $\Rightarrow$ LDCP	86	0.45301	0.6373
LDCP $\Rightarrow$ OILR*INST		0.34391	0.7100
LM2 $\Rightarrow$ LGDP	100	0.18717	0.8296
LGDP $\Rightarrow$ LM2		0.97931	0.3793
LOILR $\Rightarrow$ LGDP	108	0.55211	0.5774
LGDP $\Rightarrow$ LOILR		0.63076	0.5342
INST $\Rightarrow$ LGDP	90	1.30611	0.2763
LGDP $\Rightarrow$ INST		2.27211	0.1093
OILR*INST $\Rightarrow$ LGDP	90	1.85996	0.1620
LGDP $\Rightarrow$ OILR*INST		0.14873	0.8620
LOILR $\Rightarrow$ LM2	100	1.02168	0.3639
LM2 $\Rightarrow$ LOILR		0.91330	0.4047
INST $\Rightarrow$ LM2	85	0.33027	0.7197
LM2 $\Rightarrow$ INST		0.25033	0.7791
OILR*INST $\Rightarrow$ LM2	85	0.06210	0.9398
LM2 $\Rightarrow$ OILR*INST		0.97245	0.3826
INST $\Rightarrow$ LOILR	90	0.06299	0.9390
LOILR $\Rightarrow$ INST		1.47303	0.2350
OILR*INST $\Rightarrow$ LOILR	90	0.01366	0.9864
LOILR $\Rightarrow$ OILR*INST		0.39386	0.6757
OILR*INST $\Rightarrow$ INST	90	0.19696	0.8216
INST $\Rightarrow$ OILR*INST		2.43405	0.0938

Source: Calculated using E-views 9.0

**denotes significant at 5% significant levels

financial development is an engine of economic growth in the sample countries. A similar finding was reported in the works of Sbeiti et al. (2013), Hassan et al. (2011), and Muhammad et al. (2015). However, the finding contradicts a study by Grassa and Gazdar (2014), who established that economic growth had no impact on the financial sector development from 1996 to 2011. Similar individual countries studies that supported a significant positive relationship between financial sector development and economic growth are Ageli and Zaidan (2013) in Saudi Arabia, Ibrahim (2013), and Marashdeh and Al-Malkawi (2014).

In all three models, banks in GCC countries seem to have an inverse relationship between the institution and domestic credit to the private sector. The association is statistically significant in FMOLS and DOLS at 1% and 5% probability values, respectively; however, the panel regression model has an insignificant relationship. Similarly, negative and insignificant relation is found between oil rents and domestic credit to the private sector by banks in FMOLS and DOLS, which also implies that high oil rents decrease financial sector development. However, panel OLS exhibits an insignificant positive relationship between the two (oil rents and DCP). This further highlights the need for qualitative institutions combined with oil rents to stimulate financial sector development in GCC oil abundant economies. In other words, it means that oil rent and institutions are complementary to achieving rapid financial sector development in these countries as the contribution of oil rents to financial development is constrained by a lack of institutions or good governance.

Interestingly, the multiplicative role of oil rents and institutional quality (OILR*INST) positively influences GCC countries' financial sector development (DCP) under the review period. The reason is

that good governance indicators combined with huge oil revenue promote to a large extent the development of the financial sector in GCC countries. It further reinforces that countries having oil rents may experience accelerated financial sector development provided there are effective institutions to transform accruing oil rents to the development of the financial sector. Having established the nature of the relationship, the study further employed a pair-wise Granger causality test to examine the causal relation and the direction of causality between DCP, GDP, M2, OILR, INST and OILR*INST under the stated null hypothesis that there is no Granger causality between these variables, as presented in Table 4.

Granger causality test result indicates a unidirectional relationship running from domestic credit to private sector by banks (% of GDP) to GDP. This means that domestic credit to the private sector by Banks (proxy of financial sector development) Granger causes GDP and not the reverse. This implies that the economy is meant to grow faster over time with a well-developed financial sector. This supports a large body of literature that suggests that the effect of financial development on growth is causal. This indicates that financial development is not simply an outcome of economic growth; it contributes to and causes economic growth.

Another unidirectional causal relation is found between DCP and M2. The causality runs from domestic credit to the private sector by banks to money supply. DCP granger causes money supply and not the other way round. The study further found no causality between financial sector development (proxy by DCP) and other control variables, namely, oil rents, institutions and the interaction of oil rents and institutions.

Findings from the present study reinforce the proposition of Schumpeter (1934) that financial development drives economic growth. However, this study's findings contradict Patrick's (1966) neutrality hypothesis of no causal link between economic growth and finance. The results of this study also contradict Duasa (2014) and Rehman et al. (2015), who reported no causal relationship between financial development and economic growth for select GCC countries. The study also differed from Hamdi et al. (2014) and Almassri et al. (2020), who found bidirectional causality between economic growth and financial sector development.

5. Conclusion

The six countries of the GCC region, namely Saudi Arabia, Bahrain, Kuwait, Oman, Qatar and UAE are characterized as having substantial oil rent. The study attempts to establish the relationship between these countries' financial development and economic growth. Banks use domestic credit to the private sector and the gross domestic product to indicate financial development and economic growth. A set of control variables, namely, money supply and institutions, are incorporated into the model. An interaction term of oil rents and institutions is used to capture the effect of institutions, specifically in these oil-exporting countries.

The results of PP-Fisher Chi-Square indicate that the data are stationary at first difference. Following this, the study applies the Pedroni cointegration test, which indicates no long-run cointegrating relationship between the variables. The results of FMOLS and DOLS indicate that both GDP and money supply are positively associated, Institutions are negatively associated, and oil rents are not significantly associated with domestic credit to the private sector by banks. Granger causality results indicate that domestic credit to the private sector by banks cause GDP while neither oil rents nor institutions, nor the interaction of oil rents and institutions cause GDP.

Broadly the study indicates that economic growth has a significant positive impact on the financial sector development of the GCC countries and not vice versa. More importantly, the study examines the role of institutions in countries with substantial oil rents. This is the novelty of the study. The study opines that the contribution of oil rents to financial development is constrained by poor institutional quality. The elements of institutions need to be improved upon.

A study of other oil-exporting countries, particularly in the MENA region, could shed further light on this association between financial development and economic growth in the presence of oil rents.

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Data Availability Statement

The data used are available online at <https://data.worldbank.org/>

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