Investigating the Relationship between Financial Development, Trade Openness and Economic Growth in Argentina: A Multivariate Causality Framework

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Abstract: This study explored the interrelationships between financial development, economic growth and trade openness in Argentina using Vector Error Correction Model (VECM) with annual time series data (1994 to 2014). The contradictions in literature on the subject matter shows that the relationship between financial development, trade openness and economic growth is still an unsettled matter. Moreover, such a trivariate causality study on the three variables by empirical researchers has up to now eluded Argentina to the author's best knowledge. The study observed a positive and significant uni-directional causality running from financial development to economic growth and from trade openness to financial development in the long run. The existence of a positive but weak uni-directional causality running from financial development to trade openness, trade openness to economic growth and from economic growth to trade openness in the long run was also detected. Results also showed a causality relationship running from financial development to economic growth, from trade openness to economic growth and feedback effects between trade openness and financial development in the short run in Argentina. The study therefore encourages the Argentinean policymakers to accelerate the implementation of financial development and trade openness enhancement policies in order to achieve sustainable growth.

Keywords: Financial development; Trade openness; Economic growth; Argentina

JEL Classification: F13; F43; G10

1. Introduction

According to several empirical studies, economic growth is fostered if financial development induce trade openness in any economy. For example, Udegbunam (2002) examined the relationship between trade openness, economic growth and financial development in Nigeria using time series annual data ranging from 1970 to 1997. The study revealed that a combination of financial development and trade openness had a strong positive and significant influence on economic growth in Nigeria. Using Vector Error Correction Model (VECM) approach with annual time

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series data from 1980 to 2012, Altaee and Al-Jafari (2015) investigated the relationship between trade openness, financial development and economic growth in Bahrain. Their study noted the existence of a long run relationship between the three variables under study, a combination between financial development and trade openness had a strong causal influence on economic growth and that economic growth had no impact at all on both financial development and trade openness in Bahrain.

On the contrary, other empirical studies showed that it is the combination between economic growth and financial development that influence trade openness. Murthy et al (2014) studied the relationship between the three variables (trade openness, economic growth and financial development) using the VECM with data from 1971 to 2012. A unidirectional causality relationship running from both economic growth and financial development towards trade openness was observed. Arouri et al (2013) also studied the relationship between economic growth, trade openness and financial development in Bangladesh using the autoregressive Distributive Lag (ARDL) approach with quarterly time series data ranging from first quarter of 1975 to the last quarter of 2011. Their study observed that a combination of economic growth and financial development positively and significantly influenced trade openness in Bangladesh. Other empirical studies showed that the relationship between trade openness, financial development and economic growth is either non-existent or negligible (Gries et al, 2009; Alajekwu et al, 2013; Menyah et al, 2014).

It is clear from literature that the relationship between financial development, trade openness and economic growth is not yet a settled matter in as far as which combination of the two variables affect the third variable. All the previous studies on the trivariate causality between financial development, economic growth and trade openness have so far shied away from an emerging economy such as Argentina. It is for this reason that the current study investigated the relationship between the tree variables using an emerging market such as Argentina as unit of analysis. The rest of the study is arranged as follows: Section 2 review related literature whilst section 3 discusses the trends of the variables in Argentina. Section 4 is research methodology whilst section 5 summarised the whole study. Section 6 is a reference list.

2. Review of Related Literature

Several empirical studies showed the existence of a long run relationship between financial development, trade openness and economic growth. Polat et al (2015) studied the relationship between trade openness, economic growth and financial development using a co-integration test approach with time series annual data ranging from 1971 to 2011 in South Africa. A long run relationship was found between trade openness, financial development and economic growth in South

Africa. On the other hand, Salahuddin and Gow (2016) using the ARDL bounds testing approach with annual time series data between 1991 and 2013, investigated the relationship between trade openness, financial development and economic growth in South Africa. The three variables under study were found to be co-integrated both in the long and short run in South Africa. Ersoy et al (2011) studied the interrelationships between growth, financial development and financial openness in Turkey using the ARDL approach in Turkey with time series annual data from 1980 to 2008. Their study revealed a long term relationship between financial openness and financial development running from the latter to the former both in the short and long run in Turkey. Using co-integration approach with annual time series data from 1980 to 2007, Ogbonna (2010) examined the interrelationship between trade openness, financial development and economic growth in Botswana. The finding is that trade openness and economic growth was responsible for sustainable financial development in Botswana during the period under study.

Using panel data analysis with data from 1978 to 2012, Asghar and Hussain (2014) studied the relationship between trade openness, economic growth and financial development in developing countries. Their study showed the existence of a long run relationship between trade openness, financial development and economic growth in developing countries during the period under study. Soukhakian (2007) also examined the interrelationships between trade openness, economic growth and financial development using Granger causality approach with time series data from 1960 to 2003 in Japan. The study observed that there exists a long run relationship between these three variables in Japan. Yucel (2009) studied the relationship between financial development, economic growth and trade openness using the Johansen and Juselius for co-integration and Granger causality approach with time series data ranging from 1987 to 2007 in Turkey. The study showed that a combination of financial development and trade openness had a statistically significant influence on economic growth in Turkey. Other empirical studies which found similar results were done by Khan and Qayyum (2007), Sabandi and Noviani (2015), Lacheheb et al (2013) and Saaed et al (2015).

Other empirical studies are of the view that there is no or negligible impact of financial development and trade openness towards economic growth. Gries et al (2009) studied financial development, economic growth and trade openness interrelationships in the Sub-Saharan African (SSA) countries using the Hsiao-Granger approach. Their study observed that a combination of financial development and trade openness negligibly influenced economic growth in SSA countries. Using vector error correction model (VECM), Gries et al (20011) studied the interrelationship between financial development, economic growth and trade openness in the Caribbean and Latin American countries. Their study could not find any direct or indirect link between trade openness, financial development

and economic growth in the Caribbean and Latin American countries. Moreover, economic growth was found not to have depended on either trade openness or financial development in Latin America and Caribbean countries. Using the Johansen multivariate co-integration test to study the relationship between trade openness, financial development and economic growth in Nigeria, Alajekwu et al (2013) found out that a combination between financial development and trade openness had no influence on economic growth in Nigeria. Employing the panel bootstrapped approach to Granger causality with data ranging from 1965 to 2008, Menyah et al (2014) explored the relationship between economic growth, trade openness and financial development in African countries. Both trade led growth and finance led growth hypothesis failed to get support from the empirical findings of their study. Just like findings by Gries et al (2009), financial development and trade openness had a very minimal impact on economic growth in the African countries. Moreover, the direct relationship between trade openness and financial development in whichever direction was found to be very negligible in the African countries studied.

Few empirical studies that investigated a direct relationship between trade openness and financial development were done. Niroomand et al (2014) examined the relationship between financial development and trade openness in 18 emerging economies using the bounds testing approach to co-integration and error correction modelling with annual data ranging from 1980 to 2011. Financial development was found to have had a significant impact on trade openness both in the short and long run only in the big emerging economies. Moreover, financial development was found to have had a significant influence on trade openness in the short run only in all emerging economies that were part of the study. Kim et al (2010a) investigated whether trade openness and financial development complement each other or are substitutes using the pooled mean group estimator by Perasan et al (1999) with panel data from 1960 to 2005 for 87 countries. They noted that trade openness and financial development complemented each other in the long run and substituted each other in the short run for all the 187 countries. The same study observed that financial development had negligible influence on trade openness on Organisation for Economic Cooperation and Development (OECD) countries. Employing the pooled mean group approach by Perasan et al (2009) with cross country data (1960 -2005) from 88 countries, Kim et al (2010b) examined the dynamic impact of trade openness on financial development. They found out that there exist a long run relationship running from trade openness to financial development and the same study noted that trade openness negatively influenced financial development in the short run. A negative impact of trade openness on financial development was also found to have existed in both high inflation and low income countries that were part of the study.

Chen and Emile (2013) observed that trade openness that existed between Latin America and China had a significant positive influence on Latin America's financial development during the period between 1982 and 2009. Moreover, trade openness in general positively influenced financial development in Latin American countries. Baltagi et al (2009) studied the relationship between openness and financial development using dynamic panel estimation techniques with annual data from 1980 to 1996 in developing and industrialised countries. Both financial openness and financial trade openness were instrumental in spearheading banking sector development in both industrialised and developing countries during the period under study. Moreover, the study by Alajekwu et al (2013) found that the level of trade openness had a negligible influence on the development of the Nigerian stock exchange. Trade openness was found to have had a positive and significant impact on financial development in developing countries (Asghar & Hussain, 2014). Using dynamic panel estimation technique, Zhang et al (2015) studied the relationship between financial openness, trade openness and financial development in China. Their study revealed a negative impact of trade openness on the size of financial development and that both trade and financial openness positively and significantly determined financial efficiency in China. Law (2007) examined the link between financial development and openness in 68 low, middle and high income countries using the dynamic heterogeneous panel data analysis approach with data ranging from 1980 to 2001. When countries were studied together, they found out that trade and financial openness were key determinants of financial development. When countries were grouped separately according to income, their study observed that trade and financial openness strongly positively influenced financial development in middle income countries whilst financial development in high and low income countries was affected by openness in a very negligible manner.

A feedback effect between financial development and trade openness was also observed. For example, Gries et al (2009) found a strong bi-directional causality links between financial development and trade openness in SSA. Polat et al (2015) noted the existence of a feedback effect between financial development and trade openness was observed in South Africa both in the short and long run. Moreover, Yucel (2009) observed a feedback effect between financial development and trade openness in Turkey. Other prior studies which found similar results were done by Lawal et al (2016).
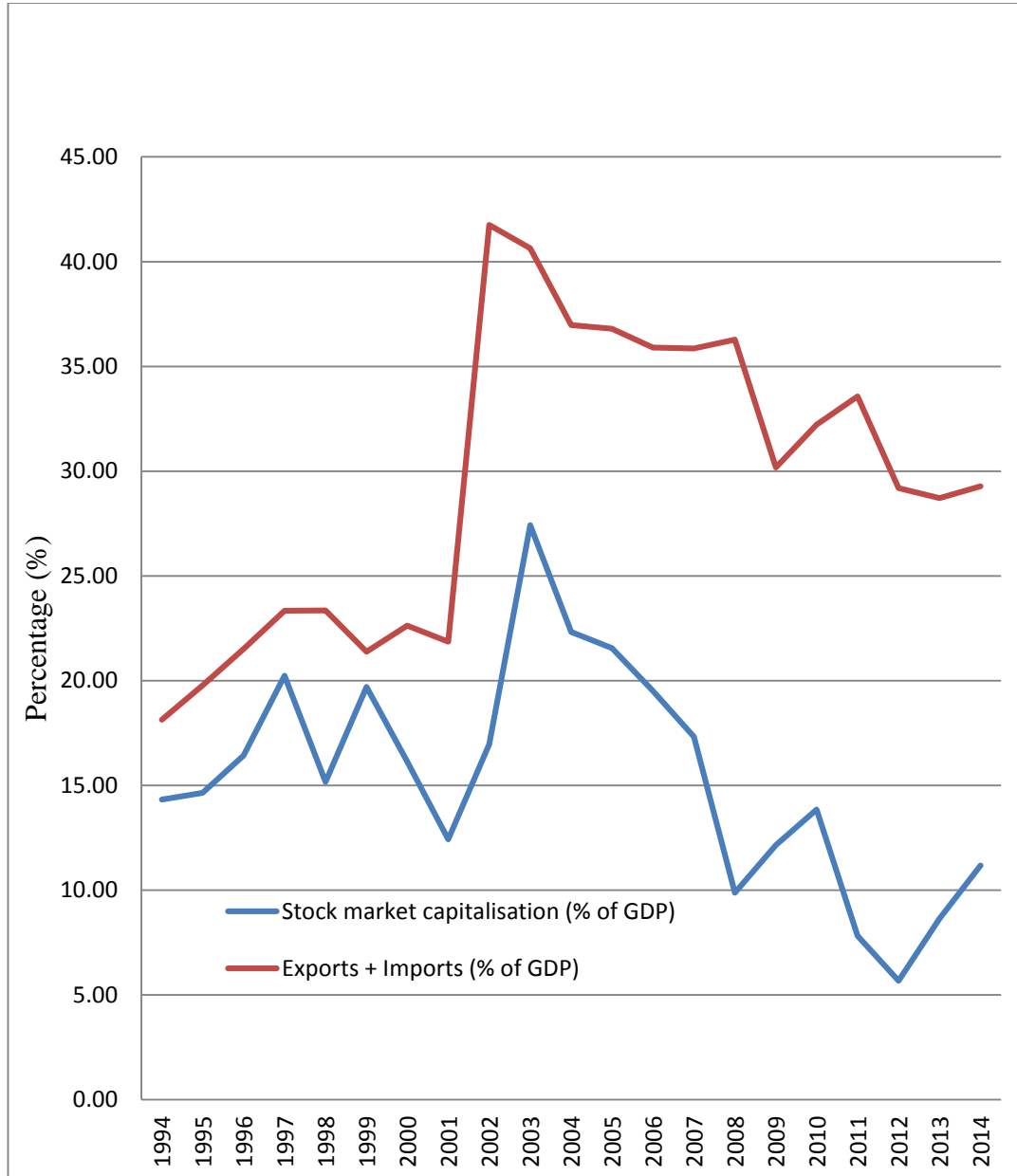
Other empirical studies showed that trade openness had an impact on financial development via other channels. Using the Johansen multivariate approach to co-integration and Granger causality with time series data from 1979 to 2005, Chimobi (2010) investigated the relationship between financial development, trade openness and economic growth in Nigeria. The money supply measure of financial development was found to have Granger caused trade openness in Nigeria both the

short and long run. Law and Demetriades (2006) using dynamic panel data estimation approach examined the relationship between institutions, trade openness and financial development in 43 developing nations with data ranging between 1980 and 2001. Their study noted that trade openness alongside strong institutions were key positive determinants of financial development in developing countries. The same study revealed that trade openness and institutions had a very weak impact on financial development in the developing countries whilst they (trade openness and institutions) had a strong influence on financial development in the middle income group of nations.

Law (2009) studied the relationship between trade openness, financial development and capital flows using the dynamic panel GMM estimation approach in developing countries. The study noted that both trade openness and capital flows separately had a positive and significant influence on financial development in developing countries. Furthermore, the study observed that trade openness influenced financial development through higher levels of institutional quality and competition in developing countries although institutional quality had a more positive impact on trade openness's influence on financial development in developing countries.

3. Financial Development and Trade Openness in Argentina

According to Figure 1, an upward trend characterised stock market development in Argentina from 1994 to 2006 whilst stock market development experienced a negative growth trend between 2006 and 2014. Moreover, an upward trend characterised trade openness in Argentina from 1994 to 2002 while stock trade openness experienced a downward trend between the period 2002 and 2014 (see Figure 1). Stock market capitalisation went up by 5.89%, from 14.32% of GDP in 1994 to 15.16% of GDP in 1998 whilst trade openness (exports plus imports as a ratio of GDP) increased by a massive 28.76%, from 18.13% of GDP in 1994 to 23.35% of GDP in 1998. The subsequent four year period from 1998 to 2002 saw both stock market capitalisation and trade openness increasing for Argentina with the former going up by 11.82% and the latter surging by a massive 78.81%.

Figure 1. Financial development and trade openness trends for Argentina (1994-2014)

Source: Author using data from World Bank, International Monetary Fund, African Development Bank databases

Stock market capitalisation further went up by 15.04% during the subsequent four year period, from 16.96% of GDP in 2002 to 19.51% of GDP in 2006 whilst trade openness declined by 14.03% to end the year 2006 at 35.89% of GDP for Argentina. Trade openness further declined by 10.26%, from 35.89% of GDP in 2006 to 32.21% of GDP in 2010 whilst stock market capitalisation also plummeted by 29.03% during the same four year period to end the year 2010 at 13.84% of GDP. Stock market capitalisation for Argentina further declined by 19.20%, from 13.84% of GDP in 2010 to 11.19% of GDP in 2014 whereas trade openness for Argentina decreased by 9.11% during the same four year time period to close the year 2014 at 29.28% of GDP.

From Figure 1, it is clear that there is a relationship between financial development as a ratio of GDP and trade openness as a ratio of GDP because both trend lines seem to follow each other in the same pattern. This provides the basis upon which further econometric analysis is done in the next section.

4. Research Methodology

This section describes the data and the variables used, model specification technique and the empirical results of the study.

4.1. Data Description

This study uses Argentina's annual time series secondary data from 1994 to 2014. The period is long enough to establish whether there exists a relationship between the variables being studied. Exports + imports (% of GDP), stock market capitalization (% of GDP) and GDP per capita were used as measures for trade openness, financial development and economic growth respectively. The secondary data was extracted from the World Bank Indicators (WDI), International Monetary Fund, African Development Bank databases. The sources of data were preferred because they provide a fairly long data set which is required when testing long multi-variant finance-growth nexuses. In line with majority of literature, this study expects trade openness and financial development to have a positive and significant impact on economic growth. It also expects economic growth and trade openness to positively and significantly influence financial development, in line with literature.

4.2. Estimation Technique and Empirical Results Discussion

The VECM was employed to estimate the relationship between trade openness, financial development and economic growth in Argentina. There are three reasons why the VECM approach was chosen for this study. Firstly, the error-correction mechanism allows the separate identification between long and short run causality directions. Secondly, the framework uses a single reduced form equation which

helps to avoid the estimation of many equations. Thirdly, according to Sims (1980), the VECM approach removes the problems of endogeneity by treating all the variables as potentially endogenous.

The VECM consists of a system of equations that expresses each variable in the system as a linear combination of its own lagged value and lagged values of all the other variables in the system. The VECM model estimation technique consists of four procedures: (1) Stationarity tests to examine the stability of the time series variables, (2) establishing whether long run relationship exists between the variables under study, (3) the evaluation of the dynamic causal relationship between the variables under study and (4) applying the VECM to establish how the response of each variable is affected by other variables within the same VECM framework.

4.2.1. Stationary Tests

Also known as unit root tests is the first stage in the estimation of time series statistical relationships and is done to examine the stability of the time series variables used in the study. In econometrics of time series data analysis, each variable has to be checked of its stationarity status before any long run relationship (co-integration) between the variables under study is investigated. In other words, any regression analysis done in a traditional way produces spurious results if the data is not stationary. This study employed the Augmented Dickey-Fuller (ADF) test, Phillips and Peron test and the Dickey-Fuller generalised least square (DF-GLS) autoregressive test for robustness purposes, following Elliot et al. (1996).

Table 1. Stationarity tests at Levels (Intercept)

Variables	Augmented-Dickey-fuller (ADF)		Phillip –Peron (PP)		Dickey- fuller (DF-GLS)	
	T-statistic	Critical Value	T-statistic	Critical Value	T-statistic	Critical Value
FIN	-4.248	-4.693 -3.382** -3.378***	0.982	-1.357 -1.873 -1.324	-0.231	-2.782 -3.382 -3.789
OPEN	-5.389	-5.492 -4.492** -3.532***	-3.278	-4.656 -3.937 -3.452	-3.725	-3.899 -4.381 -4.827
GDP	-3.621	-3.763 -2.872** -2.474***	-3.683	-4.283 -4.035 -2.642***	-2.129	-2.034* -2.935 -3.094

*Notes * ** *** refers to the rejection of null hypothesis at 1%, 5% and 10 % significance levels respectively*

Table 1 shows that most of the series are not stationary at level or integrated of order 0, denoted as 1(0). Stationarity tests were then done at first difference since the series must be integrated of order 1, denoted as 1(0) before any time series regression analysis is done to avoid producing spurious results.

Table 2. Stationarity tests at first difference (Intercept)

Variables	Augmented-Dickey-fuller (ADF)		Phillip –Peron (PP)		Dickey- fuller (DF-GLS)	
	T- statistic	Critical Value	T- statistic	Critical Value	T- statistic	Critical Value
FIN	-4.940	-4.382* -3.382** -3.284***	-3.281	-3.139* -2.954** -2.387***	-3.691	-3.983 -2.634** -2.392***
OPEN	-5.382	-4.845* -3.348** -2.943***	-5.391	-4.893* -2.589** -1.390***	-9.237	-5.456* -4.345** -3.239***
GDP	-7.349	-4.839* -3.382** -3.289***	-8.392	-6.934* -4.783** -2.785***	-9.491	-5.348* -3.782** -2.278***

*Notes * ** *** refers to the rejection of null hypothesis at 1%, 5% and 10 % significance levels respectively*

Table 2 shows that almost all the time series under the ADF, PP and DF-GLS were stationary or integrated of order 1, denoted as 1(1) at first difference since most of the test statistics were less than the critical values. This paved way for the testing of the existence of a long run relationship (co-integration) between trade openness, economic growth and financial development in Argentina.

4.2.2. Co-integration

This study used the Johansen and Juselius' (1990) multi-variate co-integration test approach which uses a maximum likelihood estimation procedure allowing the study to estimate simultaneous models involving two or more variables. The null hypothesis is the no co-integration whilst the alternative hypothesis says that there exists a co-integration relationship between the variables. The causality relationship between the variables under study can only exist if the variables are co-integrated. The Schwarz Criterion (SC) and the likelihood ratio (LR) tests were used to find a suitable optimum lag length for Argentina data since the Johansen's co-integration tests are very sensitive to the choice of lag length.

The Johansen and Juselius' (1990) multivariate co-integration approach applies the maximum likelihood procedure to investigate the existence and the number of co-integration vectors in non-stationarity time series using trace$\left(\lambda_{trace}\right)$ and the

maximum eigen value test statistics. The likelihood ratio statistic for the trace test $(\lambda_{\mathbf{trace}})$ is given as follows:

$$\lambda_{trace} = -T \sum_{i=r+1}^{p} In(1 - \lambda_1) \tag{1}$$

Where: λ_1 = The largest estimated value of *i*th characteristic root (eigenvalue) obtained from the estimated II matrix. r = 0, 1, 2,…..p-1; T= The number of observations. The λ_{trace} statistic tests the null hypothesis that the number of distinct characteristic roots is less than or equal to r, (where r is 0,1, or 2).

Alternatively, the maximum eigenvalueλ_{trace} statistic is given as follows:

$$\lambda_{max}(r, r = 1) = -Tln(1 - \lambda_{r+1}) \tag{2}$$

The λ_{max} statistic tests the null hypothesis that the number of r co-integrated vectors is r against the alternative of (r+1) co-integrated vectors. The null hypothesis r=0 is tested against the alternative that r=1, r=1 against the alternative r=2 and so on.

Al-Fayoumi (2009) noted that Johansen's co-integration test is sensitive to the choice of lag length which according to Akaike (1973), is determined by using Akaike Information Criterion (AIC), Final Prediction Error (FPE) and Likelihood Ratio (LR) test. The three criterions suggested optimum lag length 3 for all the three models (not shown here). Table 3 shows the findings of the Johansen and Juselius co-integration test.

Table 3. Johansen and Juselius Maximum Likelihood co-integration test

	H0	H1	Trace statistic	Critical value	Maximum Eigen	Critical value
Model 1: FIN=f(OPEN, GDP)	r=0	*r* ≥1	37.3822*	31.6739	32.7841*	28.9027
	r ≤1	*r* ≥2	13.6727	18.3891	17.4905*	13.9032
	r ≤2	*r* ≥3	3.7820	6.9372	1.7832	4.9218
Model 2: OPEN=f(FIN, GDP)	H0	H1	Trace statistic	Critical value	Maximum Eigen	Critical value
	r=0	*r* ≥1	34.2892*	29.1284	19.4492*	12.6729
	r ≤1	*r* ≥2	18.9035*	14.7821	15.9021	23.9814
	r ≤2	*r* ≥3	2.8491	5.8926	0.3934	4.9864
Model 3: GDP=f(FIN, OPEN)	H0	H1	Trace statistic	Critical value	Maximum Eigen	Critical value
	r=0	*r* ≥1	38.9274*	28.9028	24.8932*	20.7832
	r ≤1	*r* ≥2	11.3913	16.8929	13.8927	19.9024
	r ≤2	*r* ≥3	4.2187	4.8926	5.8927	8.9032

*Notes *   refers to the rejection of null hypothesis at, 5% significance level.*

Model 1 indicates that the trace statistics rejects the null hypothesis of r =0 against the alternative of r ≥1 at 5% significance. This shows the existence of at least one co-integrating vector in the relationship between trade openness, financial

development and economic growth. For the same model 1, maximum eingen value statistics reject null hypothesis of r ≤ 1 against the alternative r ≥2 at 5% level of significance which suggests the presence of three co-integrating vectors. The findings for model 2 shows that the trace statistics reject null hypothesis of r ≤ 1 against the alternative r ≥2 at 5% level of significance which is enough evidence to suggest the existence of three co-integrating vectors. Maximum eingen value statistics rejects the null of r =0 against the alternative of r ≥1 at 5% significance level and this is evidence that there exists one co-integrating vector in model 2. Both trace and maximum eingen value statistics rejects the null of r =0 against the alternative of r ≥1 at 5% significance level. This shows that there exists one co-integrating vector between the three variables under study in model 3. These co-integration findings supports the hypothesis that there exists a long run relationship between trade openness, financial development and economic growth in Argentina during the period under study. This paves the way for causality between the three variables to be investigated.

4.2.3. Causality Tests

Since the co-integration tests found out that there is a long run relationship between financial development, trade openness and economic growth in Argentina, the next stage was to perform causality tests using the following general multi-variate causality model:

$$ln\text{FIN}_t = \beta_0 + \sum_{i=1}^{m}\beta_1 ln\text{FIN}_t + \sum_{i=1}^{n}\beta_2\, ln\text{OPEN}_t + \sum_{i=1}^{m}\beta_3\, ln\text{GDP}_t + \mathcal{E}_t \qquad (3)$$

$$ln\text{OPEN}_t = \beta_0 + \sum_{i=1}^{n}\beta_1 ln\text{OPEN}_t + \sum_{i=1}^{n}\beta_2\, ln\text{FIN}_t + \sum_{i=1}^{m}\beta_3\, ln\text{GDP}_t + \mathcal{E}_t \qquad (4)$$

$$ln\text{GDP}_t = \beta_0 + \sum_{i=1}^{n}\beta_1 ln\text{GDP}_t + \sum_{i=1}^{n}\beta_2\, ln\text{FIN}_t + \sum_{i=1}^{m}\beta_3\, ln\text{OPEN}_t + \mathcal{E}_t \qquad (5)$$

Where: FIN stands for financial development, β_0 is a constant and β is an estimation parameter, OPEN represents trade openness, GDP is used to measure economic growth, $\mathcal{E}_{t-1}$ is the error correction term lagged one period.

The long run error correction model results are shown in Table 4.

Table 4. VECM Long run Causality Tests

Independent variables	Dependent variables		
	LnFIN	LnOPEN	LnGDP
Ln(FIN-1)		0.094(0.145)	1.037(0.032)
Ln(FIN-2)		0.439(0.1893)	1.732(0.073)
Ln(OPEN-1)	1.573(0.017)		1.489(0.639)
Ln(OPEN-2)	0.095(0.093)		0.309(0.439)
Ln(GDP-1)	-0.127(0.084)	0.092(0.129)	
Ln(GDP-2)	-0.125(0.090)	0.183(0.893)	
Joint causality co-efficient	-0.259(0.067)	0.451(0.392)	0.550(0.027)

Source: E-Views 8

Financial development [LnFIN (-1) and LnFIN (-2)] had a statistically insignificant positive impact on trade openness and a statistically significant positive influence on economic growth in Argentina in the long run at 5% and 10% level respectively. Moreover, trade openness [LnOPEN (-1) and LnOPEN (-2)] positively and significantly impacted on financial development in Argentina at 5% and 10% respectively in the long run. Trade openness on the other hand had a positive but non-significant impact on economic growth in the long run in Argentina. These results generally resonate with most theoretical predictions.

Table 4 shows that economic growth negatively and significantly influenced financial development at 10% level whilst economic growth had a positive but non-significant influence on trade openness in the long run in Argentina. Economic growth and trade openness jointly negatively impacted on financial development at 10% level of significance whilst financial development and economic growth combined had a positive but non-significant influence on trade openness in the long run in Argentina. Last but not least, both financial development and trade openness jointly positively and significantly at 5% influenced economic growth in the long run in Argentina in line with both theory and empirical predictions.

Table 5 presents short run results on the causality between financial development, trade openness and economic growth in Argentina.

Table 5. Short run causality test results from Wald block X^2 tests

Independent variables	Dependent variables		
	LnFIN	LnOPEN	LnGDP
LnFIN		0.931(0.055)	5.893(0.092)
LnOPEN	2.782(0.038)		3.237(0.014)
LnGDP	7.320(0.154)	1.034(0.431)	

Source: E-Views 8

The positive co-efficients in all the equations in Table 5 shows that there is a positive relationship between financial development, trade openness and economic growth in Argentina in the short run. Table 5 further shows a uni-directional causality relationship running from financial development towards trade openness and economic growth in Argentina in the short run. This is confirmed by the P value of 0.055 which is less than 10% with a positive coefficient in the relationship between the Ln(FIN) as an independent variable and Ln(OPEN) as a dependent variable. The finding is also supported by the P value of 0.092 which is less than 10% with a positive coefficient in the relationship between the Ln(FIN) as an independent variable and Ln(GDP) as a dependent variable. The short run causality relationships are statistically significant at 10% level. Table 5 also shows trade openness was instrumental in positively influencing both financial development and economic growth in the short run at 1% significance level in Argentina. The

absence of a short run causality running from economic growth towards financial development and trade openness in Argentina was also detected.

Table 6 summarises the findings of the long and short run relationship between financial development, trade openness and economic growth in Argentina.

Table 6. Long and short run causality in the VECM framework for Argentina

	FIN→ GDP	GDP→ FIN	OPEN→ FIN	FIN→ OPEN	OPEN→ GDP	GDP→ OPEN
Long run	Yes	Yes	Yes	Yes	Yes	Yes
Short run	Yes	No	Yes	Yes	Yes	No

Source: Author compilation from E-Views

5. Conclusion

There has been a lot of contradiction in literature with regard to the relationship between financial development, trade openness and economic growth. Four schools of thought emerged. The first one is that a combination of financial development and trade openness influence economic growth whilst the second says that economic growth and financial development influence trade openness. The third school of thought is of the view that (1) there is a negligible impact of combined financial development and trade openness towards economic growth and also (2) a negligible impact of both economic growth and financial development towards trade openness. This view contradict the first and second schools of thought. The fourth says that financial development and trade openness affect each other. The fifth is of the view that trade openness influence financial development only via other channels. This shows absence of consensus on the subject matter, a reason which triggered the author to undertake this study. The study observed that there is a positive and significant uni-directional causality running from financial development to economic growth and from trade openness to financial development in Argentina in the long run. The study also noted the existence of a positive but weak uni-directional causality running from financial development to trade openness, trade openness to economic growth and from economic growth to trade openness in Argentina in the long run. These findings to a larger extent resonate with literature. Findings from the study also show causality relationship running from financial development to economic growth, from trade openness to economic growth and feedback effects between trade openness and financial development in Argentina in the short run.

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