Macroeconomic Variables, Demographic Factors and Current Account Balance in Nigeria: A Causal Relationship

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Abstract

This paper examines the effect of macroeconomic variables, demographic factors toward current account balance in Nigeria. It analyzed the connection between each of domestic savings and investment on current account balance by examining the role and direction of the selected demographic variables. The Toda-Yamamoto approach to causality was used to analyze the study. The result shows that the direction of causality was from both domestic saving and investment to current account balance. However, there is no reverse causation from the current account balance to domestic saving and investment. Thus, the selected demographic variables had no significant causation towards current account balance, investment, and domestic saving. The government needs to finance the desired investment through increased domestic saving without undue reliance on foreign resources.

Keywords: current account balance, demographic factors, domestic savings, investment

Abstrak

Penelitian menguji pengaruh variabel ekonomi makro, faktor demografis terhadap neraca akun semasa di Nigeria. Ini menganalisis hubungan antara masing-masing tabungan domestik dan investasi pada neraca akun semasa dengan memeriksa peran dan arah variabel demografis yang dipilih. Pendekatan Toda-Yamamoto untuk kausalitas digunakan untuk menganalisis penelitian ini. Hasilnya menunjukkan bahwa arah kausalitas adalah dari tabungan domestik dan investasi ke neraca akun semasa. Tapi, tidak ada penyebab terbalik dari neraca akun semasa ke tabungan dan investasi domestik. Dengan demikian, variabel demografis yang dipilih tidak memiliki penyebab signifikan terhadap neraca akun semasa, investasi, dan tabungan domestik. Pemerintah perlu membiayai investasi yang diinginkan melalui peningkatan tabungan dalam negeri tanpa mengandalkan sumber daya asing.

Kata Kunci: neraca akun semasa, faktor-faktor demografis, tabungan domestik, investasi

JEL Code: E21, F32, J11

Introduction

The role of demography in studying the sources of economic growth has long restricted towards the effects of population size and population growth. However, some developing economies in East and Southeast Asia and Central and Eastern Europe are predicted to begin the same quickly aging process from approximately 2020 (IMF, 2004). Nonetheless, several studies have examined the relationship among or between macroeconomic variables, demographic factors, and current account balances in developing countries using different methodologies with different findings.

Bardakas (2016) had examined the relative importance of cyclical and structural factors in determining Greece's current account performance. Garg & Prabheesh (2017) examines the domestic macroeconomic and external factors that drive India's current account behavior, and they found that the reduction in the fiscal deficit could help ameliorate the deficit in the current account. Brissimis et al. (2010) investigated the determinants of the current account balance in Greece empirically, and its implications on current account developments using fully modified OLS (FM-OLS) techniques. While Shuaibu & Oyinlola (2017) state that there is current account sustainability in Nigeria. Gruber & Kamin (2005) argued that more significant current account balances are associated with greater per capita incomes, lower changes in growth, higher fiscal balances, higher net foreign asset positions, lower shares of youth and elderly in the population. Goyal and Sharma (2019) find no causality in any direction between the capital account and the current account. There is only an indirect causality through some components. Gossé and Serranito (2014) find that the speed of convergence of external imbalances is much faster in deficit countries than in surplus ones.

Oshota & Badejo (2015) show that there is a long-run relationship between current account and its determinants. It reveals that GDP per capita, investment, M2, and dependency ratio are found to have a positive impact on the current account balance. Also, an increase in GDP per capita and M2 increases current account balance in the long run, but in the short-run, investment exerts a positive impact on the current account balance in both PMG and DEF while an increase in REER has a negative impact on the current account balance.

In Nigeria, for instance, Udah (2010) reveals that the exchange rate, monetary policy credibility, and budget deficit are the essential macroeconomic variables that influence current account balance. It further shows that bidirectional relationship exists between current account balance and budget deficit. Uneze & Ekor (2012) and Gnimassoun et al., (2017) found that oil variables play a crucial role in explaining the current account position in Nigeria in the long run while the oil price was the key variable explaining CAB in the short run. Meanwhile, there was no evidence of a long-run relationship between CAB and fiscal balance in Nigeria. Adedeji & Handa (2008) find that excessive current account balance in the previous external crisis of 1986 and the use of macroeconomic indicators support this finding, pointing on the un-sustainability of the current account deficit and that the structural weaknesses contribute to unsustainable current account deficits and external crisis in Nigeria.

Besides, Oseni & Onakoya (2013) indicates that the expansionary fiscal policy shock has a positive effect on output, exchange rate, and negative impacts on the current account

balance and interest rate. By implication, this study suggests that fiscal policy can stimulate economic activity through expenditure expansions at the cost of lower interest rate and exchange rate appreciation in the medium term and a sustained current account balance would enhance output via fiscal consolidation.

Prati *et al.* (2011) Show that the population growth and fertility harm current account if it correlates with the share of inactive young people in the population as the life cycle theory indicates that the tendency of people towards saving differs at different stages of life. If with the increase in population growth, the ratio of inactive dependent population increases, it would cause a reduction in the national saving rate. So population growth can be a considerable determinant behind the deviation of saving rate from investment requirement in an economy that may ultimately disturb the current account balance. Nwakeze & Omoju (2011) find that population growth could lead to an increase in savings through the growth effect.

Furthermore, income and rapid population growth have positive and negative significant impact respectively on savings in Nigeria. Summarily, most studies that have investigated demographic effect on current account balance were mainly cross-country and panel data analysis, thus neglecting individual country time series analysis in investigating demographic effects on current account balance (Dekle, 2004; McKibbin & Nguyen, 2004; McKibbin, 2005; Kim & Lee, 2007; Ferrero, 2012; Graff et al., 2012; Yoon et al., 2014). However, studies revealed that country savings rate depends on the age structure of its population and that there exists a direct relationship between demographic changes, savings, investment, and capital flows or current account balance (McKibbin, 2005; Henriksen, 2002).

Likewise, earlier studies conducted in Nigeria for instance, which related to the current account have examined its determinants and have supported the twins-deficit hypothesis, that wider fiscal deficit should usually accompany by wider current account deficits (Udah, 2010; Olanipekun, 2012). The local shock will affect the current account variance (Ghassan & El-Jeefri, 2018).

In light of the above submission, it shows that the existing studies have yet to, in particular, examine the causation between demographic factors, domestic saving, investment, and current account balance. However, this study is different from the study conducted by Udah (2010), since this study incorporated the demographic variables, therefore the study intends to contribute to the existing knowledge by investigating the causal effect of demographic factors on domestic saving, investment and the current account balance for a country-specific, using time series data in Nigeria by age profile.

Method

In order to establish a connection between each of domestic saving and investment on current account balance all expressed as a share of GDP; two variables vector autoregressive model comprised of domestic saving (DSAVGDP), investment (INVGDP) and current account balance (CABGDPt) is using.

As proposed by Toda-Yamamoto (1995), a modified Wald test is using, avoiding the problems associated with the standard Granger Causality test by ignoring any possible non-

stationary or co-integration between series when testing for causality. The Granger causality test can be applied to the level of non-stationary series and provide valid estimations as long as the maximal order of the integration of the series (d-max) adding into the model. The model to test the causality test is specified as follows:

$$DSAV_t = \delta_1 + \sum_{j=1}^{k+d} \theta_{1j} DSAVGDP_{t-j} + \sum_{j=1}^{k+d} \beta_{1j} INVTGDP_{t-j} +$$
$$\sum_{t-j}^{k+d} \alpha_{1j} CABGDP_{t-j} + \varepsilon_{1t}$$

$$INVTGDP_t = \delta_2 + \sum_{j=1}^{k+d} \theta_{2j} INVTGDP_{t-j} + \sum_{j=1}^{k+d} \beta_{2j} DSAVGDP_{t-j} +$$
$$\sum_{j=1}^{k+d} \alpha_{2j} CABGDP_{t-j} + \varepsilon_{2t}$$

where δ_1 and δ_2 are the constants; k is the optimal order of the vector autoregressive (VAR) model; DSAVGDP, INVTGDP and CABGDP are non-stationary series with d-max equal to d; ε_{1t} and ε_{2t} are the white noise error terms. From the equations above, $INVTGDP_t$ and $CABGDP_t$ Granger cause $DSAVGDP_t$, if $\beta_{ij's}$ and $\alpha_{ij's}$ for j = 1,…,kis not jointly equal to zero, in the domestic saving equation. Similarly, if $DSAVGDP_t$ and $CABGDP_t$ Granger causes INVTGDPt for which $\beta_{2j's}$ and $\alpha_{2j's}$ for j = 1,…,k is not jointly equal to zero, in the investment equation.

The primary achievement of Toda and Yamamoto (1995) was finding the statistical properties of null hypothesis. At first, we will construct a Wald statistic to test the null hypothesis. Furthermore, Toda and Yamamoto (1995) suggested that researchers could estimate a $(k+d_{max})^{th}$ order VAR, where d_{max} is the maxima order of integration, and then jointly test k order lagged coefficients.

Table 1. Definitions and Sources of the Variables

Variables	Measurements
Current account balance (CABGDP)	Current account balance in percent of GDP
Investment (INVTGDP)	The gross rate of capital formation as a percentage of GDP
Domestic Saving (DSAVTGDP)	The sum of private and public saving as a percentage of GDP
Total age dependency ratio (TDR)	The sum of population that is between 0 and 14 year and the number of population 65 years and above. $TDR = \dfrac{Age(0-14) + Age(65^+)}{Age(15-64 years)}$
Life expectancy (LLE)	Life expectancy at birth (total) in years
Population growth (POPG)	The Annual growth rate of population
Financial development (CPSGDP)	Domestic credit to private sector in percent of GDP
Income growth (INCG)	The gross domestic product per capita growth in percent
Per capita Income (GDPG)	Gross domestic product per capita
Interest Rate (INT)	Interest rate defined as the nominal rate of interest on savings deposits
Exchange Rate (EXCH)	Expected inflation measured by consumer price index

Note: WDI implies World Development Indicator (World Bank Database), 2015; CBN indicates Central Bank Statistical Bulletin, 2016 and National Bureau of Statistics (NBS) publications of the year 2015.

Result and Discussion

This study presents the causality tests between the current account balance and domestic saving or investment. Three different test outcomes are possible such as (i) the current account Granger-causes the components, (ii) there exists two-way Granger-causality, and (iii) no Granger-causality is identified. The result presented in Table 2 shows that the chi-square proved the causality between domestic saving and current account balance thereby reflecting a unidirectional causality, indicating domestic saving as the cause for the current account balance during the study period. These results suggest that the direction of causality is from domestic saving to current account balance since the estimated chi-square is significant at 5 percent significance level. On the other hand, there is no reverse causality between the current account balance and domestic saving.

Furthermore, among the determinants or components of domestic saving, only the income growth (INCG) Granger cause current account balances (CABGDP). This result suggests that the direction of causation was from income growth (INCG) to current account balance (CABGDP) since the estimated chi-square is significant at 5 percent level of significance, while there was no reverse causation from current account balance to income growth. On the other hand, a uni-directional causality exists between domestic saving (DSAVGDP) and credit to the private sector (CPSGDP) which suggest that the direction of causality was from domestic saving (DSAVGDP) to credit to the private sector (CPSGDP).

There was no causality in any direction with the exchange rate (EXCH), interest rate (INT) or growth rate of gross domestic product (GDPG) to current account balance (CABGDP), implying that these macroeconomic variables neither deteriorate nor contribute to the current account balance. The absence of any relationship from domestic saving to the growth rate of gross domestic product (GDPG) appeared to be at odds with the widespread perception that higher saving cause growth rate of gross domestic product (GDPG) and raised an important issue regarding the appropriateness of using domestic saving as a target variable for economic progress.

Hence, this evidence is consistent with the study of Nurudeen (2010) where it stresses that the causality ran from the growth rate of gross domestic product (GDPG) to saving, implying that growth proceeded and granger causes to domestic saving for the case of Nigeria. Hounsou (2017) also found that there is a relationship between domestic saving and current account balance.

Table 2 shows that the chi-square proved the causation between investment and current account balance, thereby reflecting unidirectional causation, indicating investment as the cause for the current account balance during the study period. These results suggest a definite direction of causation from investment to current account balance since the estimated chi-square is significant. On the other hand, there is no reverse causation from the current account balance to investment. Goyal and Sharma, (2019) show that there is a causality moved from gross fixed capital formation to current account balance, implying that investment widens the current account deficit.

Table 2. The Causality Test between Domestic Saving, Investment and Current Account Balance

Null Hypothesis	Chi-square	Prob.	Direction of Causation
DSAVGDP does not Granger Cause CABGDP	4.89055*	0.0079	Uni-directional Causality (DSAVGDP→CABGDP)
CABGDP does not Granger Cause DSAVGDP	0.31871	0.8117	
INVTGDP does not Granger Cause CABGDP	5.87268*	0.0212	Uni-directional Causality (INVTGDP→CABGDP)
CABGDP does not Granger Cause INVTGDP	3.17078	0.0845	
CPSGDP does not Granger Cause CABGDP	0.04197	0.839	No Causality
CABGDP does not Granger Cause CPSGDP	3.18276	0.0839	
EXCH does not Granger Cause CABGDP	0.74045	0.3959	No Causality
CABGDP does not Granger Cause EXCH	0.09939	0.7546	
GDPG does not Granger Cause CABGDP	0.02815	0.8678	No Causality
CABGDP does not Granger Cause GDPG	0.38842	0.5376	
INCG does not Granger Cause CABGDP	5.47442*	0.0257	Uni-directional Causality (INCG→CABGDP)
CABGDP does not Granger Cause INCG	0.03373	0.8554	
INT does not Granger Cause CABGDP	0.01352	0.9081	No Causality
CABGDP does not Granger Cause INT	0.16608	0.6863	
INVTGDP does not Granger Cause DSAVGDP	1.43925	0.2391	No Causality
DSAVGDP does not Granger Cause INVTGDP	1.3759	0.2495	
CPSGDP does not Granger Cause DSAVGDP	0.10629	0.7465	Uni-directional Causality (DSAVGDP→CPSGDP)
DSAVGDP does not Granger Cause CPSGDP	3.61957*	0.0001	
EXCH does not Granger Cause DSAVGDP	0.00777	0.9303	No Causality
DSAVGDP does not Granger Cause EXCH	1.84956	0.1833	
GDPG does not Granger Cause DSAVGDP	0.47541	0.4955	No Causality
DSAVGDP does not Granger Cause GDPG	0.35157	0.5574	
INCG does not Granger Cause DSAVGDP	0.41339	0.5248	No Causality
DSAVGDP does not Granger Cause INCG	0.15138	0.6998	
INT does not Granger Cause DSAVGDP	1.1175	0.2984	No causality
DSAVGDP does not Granger Cause INT	0.97488	0.3309	
CPSGDP does not Granger Cause INVTGDP	2.22884	0.1453	No Causality
INVTGDP does not Granger Cause CPSGDP	0.00081	0.9774	
EXCH does not Granger Cause INVTGDP	0.24923	0.621	No Causality
INVTGDP does not Granger Cause EXCH	0.26658	0.6092	
GDPG does not Granger Cause INVTGDP	5.85986*	0.0213	Bi-directional Causality (GDPG ↔INVTGDP)
INVTGDP does not Granger Cause GDPG	14.6128*	0.0006	
INCG does not Granger Cause INVTGDP	2.16932	0.1506	Uni-directional Causality (INVTGDP→INCG)
INVTGDP does not Granger Cause INCG	6.56755*	0.0043	
INT does not Granger Cause INVTGDP	1.39623	0.2461	No Causality
INVTGDP does not Granger Cause INT	0.73049	0.3991	
GDPG does not Granger Cause INCG	0.02118	0.8852	Uni-directional Causality (INT→GDPG)
INT does not Granger Cause GDPG	7.56688*	0.0097	
INT does not Granger Cause INCG	4.27702*	0.0468	Uni-directional Causality (INT→INCG)
INCG does not Granger Cause INT	0.40228	0.5304	

Source: Data Processing
(*) indicates significance at 5 percent level

Likewise, among the determinants or components of investment, only the income growth (INCG) Granger caused current account balance (CABGDP). This result suggests that the direction of causality was from income growth (INCG) to current account balance (CABGDP) since the estimated chi-square is significant, while there was no reverse causality from current account balance to income growth. There was no causality in any direction with the exchange rate (EXCH), interest rate (INT), credit to private sector (CPSGDP) or growth rate of gross domestic product (GDPG) to current account balance (CABGDP), implying that these macroeconomic variables neither deteriorate nor contribute to the current account balance as reported earlier.

Therefore, it was observed that there exist some transmission route through which investment can Granger caused the current account balance as it revealed a bi-directional causality between growth rate of gross domestic product (GDPG) and investment (INVTGDP), the existence of feedback causation between GDPG and investment might suggest that economic growth can also lead to higher long-term investment in Nigeria. Some studies show the relationship between current account deficits and growth (Obi et al., 2012; Özer et al., 2018; Thomas, 2019). A shock on the growth rate results in an effect on the current account deficit (Yurdakul & Ucar, 2015).

Besides, the results show the absence of causation between investment and domestic saving as this corroborates the study conducted by Esso & Keho (2010) where they reported evidence of no causation between saving and investment in West African Economic and Monetary Union. The result also failed to support the traditional view that stipulates that saving and investment Granger-caused growth collectively as well as individually and not vice versa.

In summary, it observes that this study failed to support the Carrol & Weil hypothesis (1994) that states that saving follows, rather than precedes the economic growth. It further failed to confirm support for the neoclassical growth model that indicates higher saving is critical for maintaining a higher level of investment, as a critical determinant of growth rate. This result reveals the notion that higher savings increase the availability of funds for investment and leads to the production of more goods and services. Furthermore, with no evidence of causality and since saving is an engine of any economy. It could conclude that domestic saving alone cannot enhance investment, but somewhat foreign aid and FDI flow can enhance the investment ratio of a country; this corroborates study conducted by Idil (2010).

Conclusion

In other to find the connection between demographic variables, domestic saving, investment, and current account balance in Nigeria. The results show that the direction of causality is from domestic saving to current account balance. On that hand, there is no reverse causation from the current account balance to domestic saving. There is also a definite direction of causality from investment to the current account balance. On that hand, there is no reverse causation from the current account balance to investment. Similarly, there is no causality, either running from domestic saving to investment or from investment to domestic saving.

Therefore, for Nigeria to catch up with other as growing economies, the Nigerian government needs to finance the desired investment through increased domestic saving without undue reliance on foreign resources. Furthermore, there is a need to boost the level of saving and investment in the country through effective policies that give due consideration to the effectiveness of the potential determinants. Hence, restructuring of the financial market is needed to lure more saving since the saving behavior in the country might be insensitive to the interest rate.

References

Adedeji, O. S., & Handa, J. (2008). The Size and Sustainability of the Nigerian Current Account Deficits. *The Journal of Developing Areas,* 41(2), 1-25.

Bardakas, I.C. (2016). Structural and Cyclical Factors of Greece's Current Account Balances. *Working Paper* 206, Bank of Greece.

Brissimis S. N., Hondroyannis G., Papazoglou C., Tsaveas N. T., & Vasardani M. A. (2010). Current Account Determinants and External Sustainability in Periods of Structural Change. *ECB Working Paper Series No. 1243*. European Central Bank Eurosystem.

Carroll, C. D., & Weil, D. (1994). Saving and Growth: A Reinterpretation. *Carnegie-Rochester Conference on Public Policy*, 40, 133-192.

Dekle, R. (2004). Financing Consumption in an Aging Japan: The Role of Foreign Capital Inflows and Immigration. *NBER Working Paper No. 10781*.

Esso, L. J., & Keho, Y. (2010). The Saving-Investment Relationship: Cointegration and Causality Evidence from UEMOA Countries. *International Journal of Economics and Finance,* 2(1), 174-181.

Ferrero, A. (2012). A Structural Decomposition of the U.S. Trade Balance: Productivity, Demographics and Fiscal Policy. *Journal of Monetary Economics*, 57(4), 478–490. https://doi.org/10.1016/j.jmoneco.2010.04.004.

Garg, B., & Prabheesh, K. P. (2017). Drivers of India's Current Account Deficits, with Implications for Ameliorating Them. *Journal of Asican Economics*, 51, 23-32. https://doi.org/10.1016/j.asieco.2017.06.002.

Ghassan, H., & El-Jeefri, E. (2018). The Current Account of Saudi Economy Through Intertemporal Model: Evidence from SVAR. *Arab Economic and Business Journal*, 13(1), 39-59. https://doi.org/10.1016.j.aebj.2017.05.001.

Gnimassoun, B., Joëts, M., & Razafindrabe, T. (2017). On the Link Between Current Account and Oil Price Fluctuations in Diversified Economies: The Case of Canada. *International Economics*, 152, 63-78. https://doi.org/10.1016/j.inteco.2017.07.001.

Gossé, J-B., & Serranito, F. (2014). Long-run Determinants of Current Accounts in OECD Countries: Lessons for Intra-European Imbalances. *Economic Modelling,* 38, 451-462. https://doi.org/10.1016/j.econmod.2014.01.008.

Goyal, A., & Sharma, V. (2019). Estimating the Relationship Between CA, the Capital Account and Investment for India. *Foreign Trade Review*, 54(1), 29-45. https://doi.org/10.1177/0015732518810832.

Gruber, J. W., & Kamin, S. B. (2005). Explaining the Global Pattern of Current Account Imbalances. *Journal of International Money and Finance*, 26(4), 500-522. https://doi.org/10.1016/j.jimonfin.2007.03.003.

Graff, M., Kam Ki, T., & Jie, Z. (2012). Does Demographic Change Affect the Current Account? A Reconsideration. *Global Economy Journal,* 12(4), 1-26.

Henriksen, E. R., (2002). A Demographic Explanation of U.S. and Japanese Current Account Behaviour. *Working Paper*, Carnegio Mellon University.

Hounsou, R. (2017). Analysis of Current Account Deficit Determinants of Balance of Payments in Fixed and Flexible Exchange Rate Regimes: A Comparative Study in CFA Franc and Non-Franc Zones. *Journal of Economics and Public Finance*, 3(3), 447-469. https://doi.org/10.22158/jepf.v3n3p447.

Idil, UZ. (2010). Determinants of Current Account:The Relation Between Internal and External Balances in Turkey. *Applied Econometrics and International Development*, 10(2), 115-126.

Kim, S., & Lee, J-W. (2007). Demographic Changes, Saving, and Current Account in East Asia. *Asian Economic Papers,* 6 (2), 22-53.

McKibbin, W., & Nguyen, J. (2004). Modelling Global Demographic Change: Results for Japan. *CAMA Working Papers 2004-04,* Centre for Applied Macroeconomic Analysis, Crawford School of Public Policy, The Australian National University.

McKibbin, W. (2005). Global Demographic Change and Japanese Macroeconomic Performance. *CAMA Working Papers 2005-13,* Centre for Applied Macroeconomic Analysis, Crawford School of Public Policy, The Australian National University.

Nwakeze, N. M., & Omoju, O. E (2011). Population Growth And Savings In Nigeria, *American International Journal of Contemporary Research,* 1(3), 144-150.

Nurudeen, A. (2010). Saving-Economic Growth Nexus in Nigeria, 1970-2007: Granger Causality and Co-Integration Analyses. *Review of Economic and Business Studies* 5, 94-104

Obi, B., Wafure, O. G., & Auta, E. M. (2012). Savings, Investment and Economic Growth in Nigeria: An Empirical Analysis. *IUP Journal of Monetary Economics*, 10(1), 16-38.

Oshota, S. O., & Badejo, A. A. (2015). What Drives Current Account Balance In West Africa States. *Journal of International and Global Economic Studies*, 8(2), 91-105

Olanipekun, D. B. (2012). A Bound Testing Analysis of Budget Deficit and Current Account Balance in Nigeria (1960-2008). *International Business Management,* 6(4), 408-416. https://doi.org/ibm.2012.408.416.

Oseni, I. O & Onakoya, A. B (2012). Empirical Analysis of Fiscal Policy Shocks and Current Account Dynamics in Nigeria. *African Resaerch Review*, 7(1), 228-251. https://doi.org/10.4314/afrrev.v7i1.15.

Özer, M., Žugic, J., & Tomas-Miskin, S. (2018). The Relationship Between Current Account Deficits and Growth in Montenegro: ARDL Bounds Testing Approach. *Journal of Central Banking Theory and Practice*, 3, 5-24.

Prati, A., Ricci, L. A., Christiansen, L. E., Tokarick, S., & Tressel, T. (2011). External Performance in Low-income Countries. *International Monetary Fund, Occasional Paper*, 272.

Shuaibu, M., & Oyinlola, M. A. (2017). An Empirical Analysis of Nigeria's Current Account Sustainability. *Margin: The Journal of Applied Economic Research*, 11(1), 54-76. https://doi.org/10.1177/0973801016676015.

Thomas, M. P. (2019). Impact of Services Trade on Economic Growth and Current Account Balance: Evidence from India. *The Journal of International Trade & Economic Development,* 28(3), 331-347. https://doi.org/10.1080/09638199.2018.1538383.

Toda, H. Y., & Yamamoto, T. (1995). Statistical Inferences in Vector Autoregressions with Possibly Integrated Processes. *Journal of Econometrics,* 66 (1-2), 225-250. https://doi.org/10.1016/0304-4076(94)01616-8.

Udah, E. B., (2010). Adjustment Policies and Current Account Behavior: Empirical Evidence from Nigeria. *Global Journal of Social Sciences*, ((1), 1-16.

Uneze, E., & Ekor, M. (2012). The Determinants of Current Account Balance in an Oil-Rich Exporting Country: the Case of Nigeria. *OPEC Energy Review*, 36(4), 456-478. https://doi.org/10.1111/j.1753-0237.2012.00221.x.

Yoon, J-W., Kim, J., & Lee, J. (2014). Impact of Demographic Changes on Inflation and the Macroeconomy. *IMF Working Paper* WP/14/210.

Yurdakul, F., & Ucar, B. (2015). The Relationship Between Current Deficit and Economic Growth: An Empirical Study on Turkey. *Procedia Economics and Finance*, 26, 101-108. https://doi.org/10.1016/S2212-5671(15)00885-0.