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Modelling import demand behaviour in Ghana: a re-examination

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Abstract

This paper empirically models Ghana's real import demand with respect to disaggregated expenditure components of final demand, relative price and international reserves. Using cointegration and error-correction models, the study finds significant differences between long-run and short-run import demand elasticities. Private consumption expenditure has the biggest impact on the demand for imports. Macroeconomic policies designed to influence imports should consider the relative impact and behaviour of each disaggregated import demand determinant.

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1. Introduction

Ghana is a small open economy in a competitive global trading environment classified until recently as a lower middle income country. The country has implemented a series of economic and structural reforms in the past three decades and has shifted to a more liberalized trade regime away from what existed in the 1960s and 1970s which were characterized by import controls (import-substitution industrialization) among other restrictive trade barriers. However, adoption and implementation of economic reform programmes in the mid-1980s saw a swing towards a more open trade regime characterized by reduction and in some cases removal of high import tariffs and quantitative restrictions. Ghana's Trade Policy is hinged on two parallel strategies – an export-led and a domestic market-led industrialization strategy based on import competition.

With a highly liberalized regime, international trade and imports[1] in particular play a significant role in the economy. From a low of 11.5% in 1983, the trade intensity index has increased consistently reaching 116.1% in 2000. Trade openness averaged 83.2% between 2002 and 2009. The reason for the upsurge in overall trade ratio to GDP was due to increases in international prices of gold and cocoa – Ghana's chief exports – even though import growth dropped significantly to 3.4% in 2009 from 30.8% in 2008. Between 2000 and 2009, imports of goods and services grew by 8% while exports registered a growth rate of 5%. Merchandise import growth peaked at 33.3% in 2006. Historically, imports have exceeded exports resulting in high and persistent trade deficits with significant impact on the current account and overall balance of payments.

This paper estimates recent import trade elasticities for Ghana in the wake of the global economic crisis to inform policy. The disaggregated expenditure components of import demand have been studied by Oteng-Abayie and Frimpong (2008) using data for the period 1970-2002. We however argue that their paper still suffers from aggregation bias in the final demand variable since household and government consumption expenditures have different import contents with different implication for policy and therefore the need to disaggregate them.

In this study, a robust import demand model using disaggregated expenditure components where final demand is further decomposed into household and government consumption expenditures to reveal their relative impacts in addition to other macroeconomic variables including exports, investment and relative prices is estimated. The impact of international liquidity variables on real import is also accounted for, an aspect which has been ignored by earlier researchers. The robustness of the estimated long-run partial elasticities is further checked using the dynamic ordinary least squares (DOLS) and fully modified ordinary least square estimator (FMOLS) techniques.

The rest of the paper is organized as follows. Section 2 surveys related empirical literature on disaggregated expenditure components of import demand while model specifications, data issues and econometric methodology are discussed in Section 3. The empirical results are presented and analysed under Section 4. Section5 ends the paper with concluding remarks.

[1] Ghana's key source of imports include the EU (27), China, the US and India. Imports are mainly capital goods, food products; crude oil, manufactures, intermediate goods, and other consumables.

2. Literature Review

A plethora of empirical literature exists on import demand models particularly the traditional aggregate ones. However, given that caveats have been raised about the biasness associated with aggregate real income in import demand models, only studies conducted using disaggregated expenditures of aggregate demand are reviewed in this paper (Giovannetti, 1989; Abbot and Seddighi, 1996).

Giovannetti (1989) in a study on Italy, estimated an import demand model based on disaggregate expenditure components of real income. He found that different expenditure components have different and statistically significant impact on import demand. Abbott and Seddighi (1996) modelled aggregate imports and expenditure components for the UK economy. They found significant differences between long-run and short-run elasticities of import demand with respect to the different expenditure components. Consumption expenditure was found to exert the most impact on import demand with an elasticity of 1.29 with (0.26) and (0.10) for investment and export expenditures in that order in the long-run.

Tang (2003) in another study estimated various import demand models based on the conventional specification, Senhadji (1998), Xu (2002) and a decomposed model using disaggregated expenditure components. Using the bounds test, Tang found export expenditure to have the biggest impact on import demand in China (0.51), followed by investment (0.4), final consumption (0.17) and relative price (-0.6). Similarly, Narayan and Narayan (2005) empirically estimated Fiji's disaggregated import demand function by a applying the bounds test for the long-run and short-run periods. They found a long-run co-integration relationship among the variables when import demand is the dependent variable and also found import demand to be inelastic and statistically significant with respect to all expenditure components and relative prices in both the long-run and short-run.

Ho (2004) estimated both an aggregate and disaggregated import demand models for Macao using the Johansen-Juselius co-integration approach. The study did not establish cointegration in the case of the aggregate model but found the cointegration in the case of disaggregated function. The various expenditure components were again found to impact differently on import demand for Macao in the long-run. Changes in final consumption expenditure (range of 1.15-1.23), gross fixed capital formation (about 0.13) and exports (range of 0.45-0.50) were also found to have contemporary influences on import demand in the short-run.

In modelling import demand behaviour for Bangladesh, Tang (2002) disaggregated final demand into its components. Tang further disaggregated final consumption expenditure into private and government consumption expenditures. He found, using the bounds test and unrestricted error correction model that import demand is influenced differently by the various components of final expenditure analogous to other studies with expenditure on exports dominating. Similarly, Guncavdi and Ulengin (2008) avoided the aggregation bias in the final consumption expenditure component of final demand by disaggregating it into government and private consumption expenditures for Turkey. Their results established private consumption and export expenditure as two of the most important demand components determining real imports in the long-run and growth rates of consumption and investment as dominant factors in the short-run. Government expenditure appeared to have no significant impact on import demand in Turkey.

Empirical studies on import demand on Ghana are very limited. The most recent study was conducted by Oteng-Abayie and Frimpong (2008) using the disaggregated expenditure framework. The study covered a limited period (1970-2002) and used Ghana's trading partners' export price index to proxy import price index for Ghana due, presumably, to lack of data on the price. Results showed an inelastic import demand for all expenditure components and relative price. Investment and export expenditure were found to be the major determinants of imports in the long-run. Final consumption expenditure was established as the dominant factor explaining import demand in the short-run.

3. Model, Data and Methodology

Traditional formulation of import demand models relates import demand to real income in the domestic economy and relative prices. Following theoretical and empirical considerations, we postulate that import demand in Ghana is determined within the imperfect substitution framework where import demand is explained by real income, relative prices as well as international liquidity variables. The functional import demand model following conventional demand theory is posited as follows:

$$M_t = f(Y_t, P_t^d, P_t^m, Z_t) \tag{1}$$

Where M_t is demand for real imports, Y_t is aggregate domestic income, P_t^d is domestic prices of goods and services, P_t^m represent import prices and Z_t, a variable denoting international liquidity of the importing country which is further decomposed into gross international reserves and foreign exchange reserves. Microeconomic theory suggests demand functions to be homogeneous of degree zero in prices and nominal income. Thus, following Narayan and Narayan (2005) and Goldstein and Khan (1985), we express prices in relative terms by dividing import prices (P_t^m) by domestic prices (P_t^d) to represent relative prices (RP_t) in the import demand model. Abbot and Seddighi (1996), Narayan and Narayan (2005) *inter alia*, split aggregate income into individual components as final demand expenditure, export expenditure and investment expenditure to avoid the bias usually associated with aggregated data. Following Tang (2002), we further disaggregate final demand expenditure into private and government consumption expenditures given that these two expenditure components have different import contents and thus posit an estimable import demand model for Ghana as follows:

$$\ln M_t = \alpha_0 + \alpha_1 \ln PC_t + \alpha_2 \ln GC_t + \alpha_3 \ln E_t + \alpha_4 \ln I_t + \alpha_5 \ln RP_t + \alpha_6 \ln Z_t + \alpha_7 DUM + \alpha_8 Time + \varepsilon_t \tag{2}$$

The model is expressed in natural logarithmic form. M_t denotes real import of goods and services; PC_t – private/household consumption expenditure; GC_t - government expenditure; E_t - expenditure on total exports of goods and services; I_t - gross investment expenditure; Z_t represent international liquidity variable comprising gross international reserves (GIR_t) and foreign exchange reserves (FE_t). Given the high correlation between GIR_t and FE_t, they are used in alternative specifications to estimate their relative importance in explaining import demand. A

dummy variable, DUM, is included to capture the effect of Ghana's trade liberalization policies with 0 for 1960-1982 (pre-reform period), and 1 for the post-reform period of 1983-2009. *Time* is a time trend variable included to represent changes in tastes (Xu, 2002) and ε_t a random error term assumed to satisfy all classical assumptions. The data coverage for the study is 1960-2009 inclusive.

Consistent with the imperfect substitution theory, we expect all coefficients of disaggregated expenditure components to have a positive impact on real import demand as well as the international liquidity variable (Narayan and Narayan, 2005). Conversely, relative price is expected to impact negatively on real import demand.

Data used in the study are sourced from the World Development Indicators, (2010) and Africa Development Indicators, (2010), International Financial Statistics, (2010), Bank of Ghana Quarterly Bulletins and UNCTAD Handbook of Statistics, 2010 CD-ROM. All variables are in real terms (US$ 2000 constant prices). Relative price (RP_t) is calculated as the ratio of import price index (2000=100) to the implicit price deflator – GDP Deflator (2000=100). Real gross international (excluding gold) and foreign exchange reserves are obtained using the GDP deflator.

To establish the existence of cointegration, we utilize the bounds test developed by Pesaran *et al.* (2001) within an autoregressive distributed lag framework (ARDL). The bounds test is implemented by modelling "(2)" as a conditional ARDL as follows:

$$\Delta \ln M_t = \alpha_0 + \sum_{i=1}^{p} \beta_i \Delta \ln M_{t-i} + \sum_{j=1}^{p} \phi_j \Delta \ln PC_{t-j} + \sum_{k=1}^{p} \chi_k \Delta \ln GC_{t-k} + \sum_{l=1}^{p} \delta_l \Delta \ln E_{t-l} + \sum_{m=1}^{p} \varphi_m \Delta \ln I_{t-m}$$
$$+ \sum_{n=1}^{p} \eta_n \Delta \ln RP_{t-n} + \sum_{o=1}^{p} \mu_o \Delta \ln Z_{t-o} + \lambda_1 \ln M_{t-1} + \lambda_2 \ln PC_{t-1} + \lambda_3 \ln GC_{t-1} + \lambda_4 \ln E_{t-1} + \lambda_5 \ln I_{t-1}$$
$$+ \lambda_6 \ln RP_{t-1} + \lambda_7 Z_{t-1} + \lambda_8 DUM + \lambda_9 Time + \varepsilon_t \qquad (3)$$

Where all variables are as previously defined except Δ which denotes the difference operator. The bounds test is conducted as a Wald test (*F*-statistic) by testing the joint significance of the coefficients of the lagged variables in "(3)" under the null hypothesis of no cointegration. For "(3)", the test is carried out under the null hypothesis of no cointegration $(\text{i.e. } H_0 : \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = \lambda_7 = 0)$ against the alternative of cointegration $(\text{i.e. } H_A : \lambda_1 \neq 0,\ \lambda_2 \neq 0,\ \lambda_3 \neq 0,\ \lambda_4 \neq 0,\ \lambda_5 \neq 0,\ \lambda_6 \neq 0,\ \lambda_7 \neq 0)$. If the computed or calculated *F*-statistic falls outside the asymptotic critical value bounds at conventional significance levels, then a conclusive inference with regard to cointegration can be made irrespective of the order of integration of the variables. If the calculated *F*-statistic lies above the upper critical bound value, then the null hypothesis of no cointegration can be rejected. Conversely, if the calculated *F*-statistic lies below the lower bound, the null of no cointegration cannot be rejected. However, if it lies between the lower and upper bound values, then conclusive inference cannot be made; hence necessitating testing for the order of integration of the variables to reach a conclusion.

Having established the existence of cointegration, the following long-run import demand model based on the ARDL (*m, n, o, p, q, r, s*) specification is estimated:

$$\ln M_t = \beta_0 + \sum_{i=1}^{m} \beta_1 \ln M_{t-i} + \sum_{i=o}^{n} \beta_2 \ln PC_{t-i} + \sum_{i=0}^{o} \beta_3 \ln GC_{t-i} + \sum_{i=0}^{p} \beta_4 \ln E_{t-i} + \sum_{i=0}^{q} \beta_5 \ln I_{t-i}$$
$$+ \sum_{i=0}^{r} \beta_6 \ln RP_{t-i} + \sum_{i=0}^{s} \beta_7 \ln Z_{t-i} + \beta_8 DUM + \beta_9 Time + \varepsilon_t \quad (4)$$

To capture the dynamic relationship between real import demand and its determinants, we estimate an error-correction model within the ARDL framework:

$$\Delta \ln M_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta \ln M_{t-i} \sum_{i=0}^{n} \beta_2 \Delta \ln PC_{t-i} + \sum_{i=0}^{n} \beta_3 \Delta \ln GC_{t-i} + \sum_{i=0}^{n} \beta_4 \Delta \ln E_{t-i} + \sum_{i=0}^{n} \beta_5 \Delta \ln I_{t-i}$$
$$+ \sum_{i=0}^{n} \beta_6 \Delta \ln RP_t + \sum_{i=0}^{n} \beta_7 \Delta \ln Z_{t-i} + \beta_8 DUM + \beta_9 Time + \beta_{10} ECT_{t-1} + \varepsilon_t \quad (5)$$

Where all variables in "(4)" and "(5)" are as previously explained except ECT_{t-1} which denotes the error-correction term. The one period lagged error-correction term measures the speed of adjustment in reverting to long-run equilibrium following shock(s) to the system. The appropriate lag order is selected on the basis of the Schwarz Information Criterion (SIC) for a parsimonious import demand model.

In addition to the ARDL long-run estimates, we also estimate long-run import demand elasticities using the dynamic ordinary least squares (DOLS) of Stock and Watson (1993) and fully modified ordinary least squares (FMOLS) estimator due to Phillips and Hansen (1990) as a means of checking for robust long-run import demand elasticities.

4. Empirical Results

4.1 Unit Root Tests

Univariate time series properties of the series are robustly checked using the GLS-detrended Dickey-Fuller (DF-GLS) of Elliot *et al.* (1996) and KPSS (Kwiatkowski *et al.* 1992) unit root tests. Whilst the DF-GLS tests the null hypothesis of unit root with and without trend, the KPSS test assumes the series is to be (trend) stationary under the null. The essence of employing these tests is to provide some form of robustness check given the low power usually associated with unit root tests particularly the traditional Augmented Dickey-Fuller (ADF) test. Results of the unit root tests for all series are reported in Table 1. All variables contain unit root according to both DF-GLS and KPSS tests except gross international reserves and foreign exchange reserves which strongly rejected the null of unit without trend in the DF-GLS equation while failing to reject the null of stationarity in the case of the KPSS test. First differences of the variables indicate stationary series in each test. Thus all variables are non-stationary except GIR and FE which are level stationary.

Table 1. Unit root tests

Variable	DF-GLS		KPSS	
	Constant	Constant & Trend	Constant	Constant & Trend
lnM_t	-0.5942	-0.8893	0.2938	0.2272***
$lnPC_t$	1.1014	-1.7108	0.8465***	0.2141**
$lnGC_t$	-0.2960	-2.0044	0.8928***	0.1746**
lnE_t	-0.2530	-0.9252	0.3550*	0.2142**
lnI_t	-0.0631	-1.0170	0.4837**	0.2220***
$lnRP_t$	-1.0012	-2.4894	0.7499***	0.1224*
$lnGIR_t$	-2.2059**	-2.6996	0.1015	0.1012
$lnFE_t$	-2.3137**	-2.8580	0.1099	0.1074

*Note: ***, **, * denotes rejection of unit root hypothesis at the 1%, 5% and 10% levels respectively*

4.2 Cointegration Results

Results from the bounds test for cointegration are reported in Table 2. The calculated *F*-statistic when real import demand of goods and services is expressed as the dependent variable is also shown. To distinguish the relative importance of the international liquidity variables (i.e. GIR and FE), we report each variable as a separate regressor in the import demand equation to ascertain whether cointegration exists in each case. Clearly, the results show that calculated *F*-statistic for each model with time and quadratic time trends respectively exceeds the upper critical values at the 5% level and hence reject the null hypothesis of no cointegration between real import demand and its determinants.

Table 2. Bounds test for cointegration relationship

Critical value bounds of the F –statistic: intercept and trend

		90%		95%	
Model	*F –stat.*	*I*(0)	*I*(1)	*I*(0)	*I*(1)
		2.603	3.798	3.037	4.347
$F_M(M \mid PC, GC, E, I, RP, GIR, Time)$	4.460**				
$F_M(M \mid PC, GC, E, I, RP, FE, Time)$	4.427**				
		2.986	4.168	3.447	4.790
$F_M(M \mid PC, GC, E, I, RP, GIR, Time, Time^2)$	4.392*				
$F_M(M \mid PC, GC, E, I, RP, FE, Time, Time^2)$	4.333*				

*Note: Critical value bounds are computed by stochastic simulations using 20,000 replications with Microfit 5.01. ** and * denote statistical significance at the 5% and 10% levels respectively.*

4.3 Long-run and Short-run Import Demand Elasticities

The estimated long-run results based on the ARDL, DOLS and FMOLS are shown in Table 3. All estimated coefficients follow their theorized signs and magnitudes. Our results show the importance of estimating disaggregated expenditure components of aggregate income given that each exerts a different impact on real imports with differing magnitudes. All coefficients are statistically significant in the DOLS and FMOLS except gross international and foreign exchange reserves albeit with the expected positive sign. The most striking observation about the results is that irrespective of whether gross international reserve or foreign exchange reserve is used, results between the DOLS and FMOLS long-run estimates are almost the same and indistinguishable in sign and magnitude. The results further show that all expenditure components have significant differences between the estimated expenditure demand elasticities to import demand with regard to private consumption expenditure, government consumption expenditure, expenditure on investments and real exports. The major determinant of aggregate imports in Ghana in the long-run is private consumption expenditure given the high elasticity coefficient in all the estimated models with the rest of the import drivers showing inelastic demand elasticities. This is not surprising given that household consumption has the largest share to GDP in Ghana. The relative price variable is correctly signed as expected and statistically significant in five out of six specifications of the import model (Table 3). This implies that an increase in relative price will increase the import bill and consequently reduce the demand for imports by the magnitude of the coefficient of relative price in the import demand model. For example, an increase in relative price by 1% will reduce import demand by 0.36% while increasing the import bill by 0.64%. Gross international reserve and foreign exchange exert no significant impact on import demand in our models albeit with the expected positive sign. This could perhaps be explained in the light of the difficulty in raising adequate international reserves in recent years to meet Ghana's increasing import requirements. It is noteworthy that some significant increases have been recorded (fluctuating around three months of import cover) in recent periods albeit from a very low base. A dummy variable introduced to capture the effect of trade liberalization in Ghana is positive and significant in all the models. Clearly, the results confirm that the reform process through the economic recovery programme and the subsequent accelerated opening up of the Ghanaian economy in the mid-1980s has significantly spurred growth in imports over the last two decades. The time trend is also significant and negative in all the estimated models.

Results of the short-run import demand elasticities are shown in Table 4. Similar to the long-run results, all estimated coefficients show inelastic demand effect except private consumption expenditure which still dominates the other import determinants. It is noteworthy all estimates maintained their signs and statistical significance except real gross international reserve which came out negative. However, the impact of both gross international and foreign exchange reserves have almost negligible effect on real import demand given their rather small magnitudes. The error correction term (ECT_{t-1}) is negative and statistically significant at the 1% level in both models while ensuring the attainment of long-run equilibrium. The sizes of the coefficients of the ECT_{t-1} terms are fairly high implying a moderately high convergence to long-run equilibrium following any shocks to the system. For example in Model (1), about 59% of the

disequilibrium resulting from a shock to import demand in the previous period is corrected in a year.

Further, a number of diagnostic tests conducted on the short-run model indicate a well behaved import demand model. Specifically, we found no evidence of autocorrelation in the disturbance term while observing normally distributed errors given the Jarque-Bera normality test results. The RESET test also suggests a well specified econometric model while the White test indicates absence of heteroskedasticity in model. The values of both R^2 and adjusted-R^2 clearly show that most of the variations in import demand are explained by the explanatory variables in the model. In addition to the various diagnostic tests, the CUSUM and CUSUMQ[2] residual-based tests of Brown *et al.* (1975) was conducted to assess constancy of the estimated parameters over the period under investigation. While the CUSUM and CUSUMQ test indicates no structural instability when real foreign exchange reserve is included in the import demand model, the CUSUMQ revealed some unstable behaviour particularly around 1988 using real gross international reserves as an additional explanatory variable.

Table 3. Long-run import demand elasticities

Variable	*ARDL*		*DOLS*		*FMOLS*	
	(1)	(2)	(3)	(4)	(5)	(6)
C_t	-8.634*	-15.412***	-12.694***	-12.701***	-13.154***	-13.135***
	(-1.94)	(-4.98)	(-4.65)	(-4.67)	(-5.97)	(-5.98)
$lnPC_t$	1.315**	2.243***	1.636***	1.639***	1.702***	1.702***
	(2.210)	(5.22)	(4.69)	(4.72)	(6.08)	(6.09)
$lnGC_t$	0.030	0.164	0.413**	0.413**	0.433***	0.431***
	(0.13)	(0.88)	(2.53)	(2.57)	(3.31)	(3.32)
lnE_t	0.722***	0.526***	0.549***	0.548***	0.531***	0.532***
	(3.96)	(3.88)	(4.20)	(4.21)	(4.99)	(5.01)
lnI_t	0.087	0.163**	0.291***	0.289***	0.275***	0.272***
	(0.78)	(1.79)	(3.77)	(3.74)	(4.43)	(4.38)
$lnRP_t$	-0.223	-0.358***	-0.274**	-0.275**	-0.281***	-0.286***
	(-1.56)	(-3.01)	(-2.22)	(-2.33)	(-2.72)	(-2.91)
$lnGIR_t$	0.079		0.022		0.045	
	(1.14)		(0.43)		(1.01)	
$lnFE_t$		0.016		0.022		0.043
		(0.32)		(0.48)		(1.11)
Dum	0.548**	0.697***	0.450**	0.451**	0.451***	0.458***
	(2.47)	(3.43)	(2.46)	(2.50)	(3.04)	(3.14)
Time	-0.034*	-0.056***	-0.058***	-0.058***	-0.057***	-0.057***
	(-1.79)	(-4.15)	(-4.85)	(-4.89)	(-5.99)	(-6.02)

*Note: ***, **, * denotes statistical significance at the 1%, 5% and 10% levels respectively.*

[2] Figures are not reported for brevity of presentation.

Table 4. Short-run import demand elasticities

Variable	*ARDL*	
	(1)	(2)
C_t	-9.050***	-3.092
	(-5.33)	(-1.12)
$\Delta lnPC_t$	1.317***	1.213***
	(6.42)	(6.25)
$\Delta lnGC_t$	0.416***	0.397***
	(3.74)	(3.88)
ΔlnE_t	0.309***	0.448***
	(2.98)	(4.27)
ΔlnI_t	0.256***	0.191***
	(4.00)	(3.12)
$\Delta lnRP_t$	-0.374***	-0.305***
	(-3.61)	(-2.87)
$\Delta lnGIR_t$		-0.045
		(-1.2322)
$\Delta lnGIR_{t-1}$		-0.066*
		(-1.81)
$\Delta lnFE_t$	0.009	
	(0.32)	
Dum	0.409***	0.173
	(3.77)	(1.32)
Time	-0.033***	-0.013
	(-4.03)	(-1.15)
ECT_{t-1}	-0.587***	-0.559***
	(-6.22)	(-5.38)
Summary Statistics and Diagnostics		
R^2	0.812	0.858
$\bar{R}^2$	0.747	0.792
F –stat.	16.742***	19.356***
DW –stat.	1.79	1.99
AIC	44.15	47.98
SIC	31.99	33.01
$\chi^2_{Auto}(1)$	0.826[0.363]	0.018[0.895]
$\chi^2_{Reset}(1)$	0.003[0.957]	3.408[0.065]
$\chi^2_{Norm}(2)$	0.127[0.939]	1.554[0.460]
$\chi^2_{White}(1)$	3.830[0.050]	1.804[0.179]

*Note: ***, * denotes statistical significance at the 1% and 10% levels respectively.*

5. Concluding Remarks

This study provides new and robust estimates of aggregate import demand elasticities using disaggregated expenditure components of domestic income, relative prices as well as international liquidity indicators. Using the bounds test of Pesaran *et al.* (2001), the existence of a stable long-run equilibrium relationship is tested and estimated while the short-run import demand elasticities are estimated via the error-correction model. The results show that in both periods, import demand is inelastic with all estimated coefficients except private consumption expenditure which is very responsive to demand for real imports. The paper thus underscore the need to avert the aggregation bias usually associated with estimating import based on only aggregate real income given that the expenditure components of final demand respond differently to imports. Private consumption expenditure appears to be the major determinant of import demand in Ghana. Public consumption expenditure, expenditure on exports and investments also exert significant impact on import demand in addition to relative prices. Trade liberalization policies implemented in the past has also contributed significantly to the continuous surge in imports.

The results have relevant policy implications for the conduct of economic policies designed to reduce the persistent and widening trade deficits. From the results, it is quite plausible to conclude that macroeconomic policies designed to affect expenditure patterns of consumption could be significantly effective in influencing demand for imports in order to improve the trade and current account balances.

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