Theorem 3.

The impacts of the foreign trade policies of the domestic economy’s foreign trade and payments’ partner country on the volumes of monetary and financial instruments in the domestic economy and the global economy are given by (16) – (17b):

Eqn 16 17a

Where all the variables are as indicated already.

The proofs of (16) (17b) prove theorem 2. The proof involves invocation of the composite function rule of differential calculus, based on (10a), (3a) –(3b), (7a) – (7c), and evaluated to yield (16), (17a) – (17b) in theorem 2 as required.

(Q.E.D).

Theorem 4.

The impacts of the foreign trade and payments policies of the domestic economy’s foreign trade and payments partner country on the proportional growth and acceleration of the volumes of the domestic and global (international) monetary and financial instruments in the domestic economy and the global economy are given by (18a) – (18b):

Eqn 18 a b c d e

Q.E.D.

Theorem 5.

The impacts of the foreign trade policies of the domestic economy’s foreign trade and payments partner country on the volumes of the domestic economy and the global economy’s volatilities of the volumes’ levels, proportional growth and acceleration of the monetary and financial system’s instruments in the domestic economy and the global economy are given by (19a) –(19f):

Eqn 19 a b c d e f

Where eqn 19 e

Proving (19a) – (19f) essentially constitute the proof of theorem 5. Utilizing the composite function rule of differential calculus, evaluating and simplifying the results yield (19a) – (19f) in theorem 5 as required.

Q.E.D.

THEORE 6

The marginal impacts of the competition in the monetary and financial market on the levels, growth and acceleration of real, aggregate output in the domestic open economy global economy are given by (20a) – (20c) and (20d) – (20f):

Eqn 20 a b c d e f

Where w(g,t), \_\_ (g,t) and \_\_ (g,t) are the respective shares of the gth domestic open economy in the levels growth and acceleration in the global economy; \_\_\_\_\_\_ , ---------- and \_\_\_\_\_ are as derived in (20a) – (20c); all other variables are as already indicated.

Theorem 6 is proved by proving (20a) – (20c) and (20d) – (20f) . utilizing the implicit function rule and the inverse function rule of the differential calculus, evaluating the terms using Axioms 2, amd Q = \_\_\_\_ and the function for \_\_ derived from this function for \_\_\_, and simplifying the results give (2a) – (20c) and (20d) – (20f) respectively.

29

Thorem 7

The marginal impacts of the foreign trade and payments policies of the domestic economy’s foreign trade and payments partner country on the level, growth, and acceleration of the real aggregate output in the domestic economy and the global economy are respectively given by (12a) – (21c) and (21d) – (21f):

Eqn 21 a b c d e f

Where all the variables are as already indicated ; the first factor in each equation here is derived respectively from the equations in theorem 6

30

Whereas the second factor in each equation here theorem 7 is derived from theorem 2.

The proof of theorem 7 entails the proof of (21a) – (21c) and (21d) –(21f), following the procedures which were utilized in the proofs of theorem 2 and theorem 6 as required.

Q.E.D.

The proof of theorem 7 entails the proof of (21a) – (21c) and (21d) – (21f), following the procedures which were utilized in the proofs of theorem 2 and theorem 6 as required.

Q.E.D.

31

3. The Modelling Methodology.

The modelling methodology of the present study utilizes the novel general theory already constructed in section 2 as its theoretical foundation. The derived optional long run equilibrium functions for supply and factor demand functions in Lemma 1, coupled with the derived equilibrium correction functions in theorem 1consitute this study’s novel general modelling methodology which is not only novel but also adequately general; and this makes it applicable to open economies and the global economy as a whole. The parameters of these functions and the hypotheses testing in respect of these parameters can be undertaken by utilizing conventional estimation and PVOEV – Related hypotheses testing procedures (see for instance, Fomby, Hill and Johnson 1984, Judge, et al., 1985, Eagle and Granger 1987, Yerfi Fosu 1992).

The relevant long term time series data required to execute this modeling methodology on the Real world empirical front can be sourced from the offices of statistics in a given country or countries, supplement with data from the time series databases of multilateral institutions like the United Nations’ IMF, The World Bank, UNICTAD, FAO, ILO, WTO, coupled with OECD, inter alia.

32

Research Results and Policy Implications.

It has been observed in this study’s constructed novel general theory that, among others, the optimal long run equilibrium output supply volumes of the monetary and financial system instruments are determined by the unit prices (returns) of these monetary financial system instruments and other products, as well as unit prices (costs) of factor inputs employed to produce all the physical quantities of the output produced in a given open economy. In addition, these determinants coupled with respective shares of the countries in the global economy constitute the factors which determine the global economy constitute the factors which determine the volumes of the monetary and financial system instruments in the entire global economy. Furthermore, this study observes that in the long run, the volume of output supply of a given monetary or financial instruments tends to increase (decrease) when its unit price or returns, the prices of other monetary and financial instruments which are complementary (Substitute) also increase (decrease), as well as when the prices (cost) of the factor inputs decrease (decrease), as well as when the prices (cost) of factor inputs decrease (increase), ceteris paribus (recall Lemma 1and the remarks on Lemma 1). In addition, when the share of a given country in the volume of the global monetary and financial instruments increases (decreases), this volume trends to increase (decrease), ceteris paribus (recall Lemma 2).

33

Another important observation of the study is that, in the short run, economic inertia or frictions like the inability of the relevant economic agents to perceive the changes in the aforementioned long run determinants of the volumes of the monetary and financial instruments; hence, their adjustments or responses to these changes are not instantaneous, and this precipitates disequilibrium in the actual observable levels of these volumes relative to their aforementioned corresponding optimal long run equilibrium levels. However, as strength of these frictions ease over time, these short run disequilibria are corrected (removed) automatically, depending upon the degree of competition in the monetary and financial instruments’ markets. The parameter attached to the deviations of the actual (observable) levels of the relevant volumes of the aforementioned monetary and financial instruments from their respective optimal long run equilibrium levels in the relevant equilibrium correction relationships conditions the measure of the aforementioned degree of competition. when this parameter is close to 1.0 (viz., 100 percent), then degree of this competition is very high, whereas when it is close to 0.0 (viz., 0 percent), then the degree of the competition is extremely low(recall theorem 1).

An additional principal results of this research is that the policies of an open economy’s foreign trade and payments partner country which utilizes her economic and financial strength for geopolitical ends tend to exert negative or positive marginal impacts on the degree of competition in the monetary and financial instruments markets in the specific individual domestics open economy and the global economy, ceteris paribus. The transmission mechanisms which induce these impacts operate as follows. An

34

Increase in the marginal rate on the import tariff (actual or tariff – equivalent) imposed by the aforementioned foreign partner country of the aforementioned domestic open economy of the exports (viz., monetary and financial instruments, real goods and services, and factor inputs) of this domestic open economy tends to exert lower domestic prices of these exports of the domestic open economy which, in turn, tend to precipitate lower or higher supply of these exports, depending upon whether the relevant impacts are own price impacts, cross-price impacts (viz., monetary and financial instruments, real goods and services, and factor inputs ) of this domestic prices of these exports, depending upon whether the relevant impacts are own price impacts, cross-price impacts (for complementary versus substitution impacts). The volumes of these supply changes including those of the volumes of monetary and financial instruments then precipitate lower or induce higher magnitudes of the degree competition in the monetary and financial system, ceteris paribus in the domestic open economy and the economy (recall theorem 2 and 3). In the same vein, the aforementioned foreign country’s trade policies tend to exert either a negative or positive impact on the proportional change and acceleration of the volumes of the monetary and financial instruments in the domestics open economy and the global economy. The transmission mechanism in this regard are similar to those indicated in the immediately preceding paragraph (recall Theorem 4).

This research further observed that the aforementioned foreign country’s foreign trade policies can exert a negative or positive impacts on the volatilities (viz., variance) of the levels, proportional changes and acceleration of the volumes of the monetary and financial instruments in the domestic open economy and the global economy (recall theorem 5). The transmission mechanisms herein operate as follows. The increase in this foreign country’s foreign trade and payments policies’ rates influence the domestic prices of the monetary and financial instruments which

35

the volatilities of the prices, and ultimately influence in turn, influence the variances of the levels, proportional changes, and acceleration of the volumes of monetary and financial instruments in the domestic open economy and the global economy (recall theorem 5). The results of this study further indicates that the marginal impacts of competition in the monetary and financial instruments’ markets and the foreign trade and payments policies of the domestic economy’s foreign trade and payments partner country which utilises her economic and financial strength for geopolitical ends, on the levels., growth and acceleration of the real aggregate output in the domestic open economy and the global economy tend to be negative or positive (recall theorem 6 and 7). The relevant transmission mechanisms are similar to the already optimized in the previous paragraphs in the section of this paper, as evident in theorem 6 and theorem 7.

This study’s results which have been discussed so far, present requisite quantitative, information for constructing a typology of all the impacts obtained of in this study, for domestic open economies and for the global economy. This typology of impacts can then be utilized to design and proffer fruitful policies for countering any potential or actual undesirable (adverse) impacts of foreign trade and payments policies of a given domestic economy’s trade and payments partner country which utilizes her economic and financial strength for geopolitical ends. As an exemplar, where a given determinant trends to exert a negative impact, then its level can be increased (decreased) where lower (higher) levels of the relevant economic phenomenon (\_\_) already discussed tend to be desirable, and vice versa. Foreign trade and payments partner country switching can also be employed if any ‘geoeconomic’ impact(s) tend(s) to be undesirable. Of course, many other results can be distilled as by products of this study. Finally, this study’s results are novel and are applicable to any of domestic economy and the global economy because of its generalizing, inter alia.

36

Concluding remarks

This research paper has constructed a novel general theory and modelling methodology of the “geoeconomic” impacts in results of competition in the monetary and financial instruments’ markets (and system) and the foreign trade and payments policies of the domestic economy’s foreign trade and payments partner country which utilizes her economic and financial strength for geopolitical ends. It has rigorously analysed the impacts of these policies on the degree of the aforementioned competition, coupled the levels, proportional growth, and acceleration of the volumes of the different components of monetary and financial instruments (system)and the volatilities (various) of these volumes, as well as levels, growth and acceleration of real aggregate output in a given domestic open economy and the global economy as a whole. It has additionally quantified the impacts of the degree of the aforementioned competition on the levels, growth and acceleration of real aggregate output in a given economy and the global economy.

The study utilizes the logical deductive reasoning approach to the scientific theorizing process in the construction of the present study’s generals theory. Moreover, this theory is employed as the theoretical foundation of the modelling methodology. This modelling methodology innovatively utilizes this theory jointly with the Clive Granger representation Theorem to derive an underlying equilibrium correction relationship. The relevant data sources are indicated wherein. All these facilitate the qualification of the requisite long run and short run impacts and the degree of competition in one joint composite framework. Among other results, this study observes that the aforementioned

37

Impacts can be negative or positive. The transmission mechanisms which induce these impacts are outlined in this study. This study suggests that these impacts can be utilized to construct a typology of the relevant impacts for various types of economic which can, in turn, be employed to design and proffer fruitful policies to counter any potential or actual undesirable (adverse) impacts of a foreign trade and payments policies of a foreign partner country which utilizes her economic and financial strength for political ends. As exemplars when a determinant tends to exert a negative impact in an economic phenomenon then increased (decreased) levels of this determinant tends to exert a positive impact on its economic phenomenon then increased (decreased) levels of this determinant tends to exert higher (lower) levels of its economic phenomenon. These imply that when higher levels of a given phenomenon are desired then the levels of its determinants need to be decreased (increased) in the former case (in the latter case), whereas when lower levels of the economic phenomenon are desired then the levels of the economic phenomenon are desired then the levels of its determinants need to be increased in the former case (decreased in the latter case). In addition to such policies, foreign trade and payments partner country switching can also be utilized to counter any potential or actual undesirable (adverse) foreign partner country trade and payments policies.

References

Engle and Granger 1987

Fomby, Hill and Johnson 1984

Fosu, K. Yerfi 1992

Judge, et al 1985.