Homogenous Economic Policy and Heterogeneous Consumer Economy: Empirical Analysis of the Vulnerability of the Regions to Macroeconomic Policy in Nigeria

Oduh, Moses Onyema1* Oduh, Maryann Ogechi2
2. Department of Economics, University of Nigeria, Nsukka

*E-mail of the corresponding author: oduhmoses@yahoo.com; oduhmoses@gmail.com

Abstract
This paper provides empirical evidence to show that regimented aggregate demand policy will probably be more appropriate for Nigeria given that the response of consumers to macroeconomic shocks is homogeneously tied around regional demand pattern. Result of the panel regression suggests that the effects of changes in income and price homogenously cut across the six regions, while response to expected rise in unemployment is substantially linked to the predominant employment structure in the regions. Exchange rate is shown to be a weak expenditure-switching instrument of policy variable since it does not have any known consistent pattern of impact. The paper argues for movement away from aggregate to region-specific economic policies based on the demand dynamics of the zones.

Keywords: Nigeria, vulnerably, heterogeneous demand, homogenous economic policy, panel model

1. Introduction
This work is not aimed at cultural or ethnic comparison; neither is it aimed at attaching any religious or political relevance to the distribution of resources; rather that in a multicultural economy such as Nigeria, pattern of demand tends to be influenced to a very large extent by cultural and religious disposition. As a result, cost of resources distribution becomes inefficient leading to in-country income inequality and escalating poverty. Consequently government action aimed at achieving all-inclusive growth will be pervasive because a homogenous economic policy in a heterogenous consumer economy will leave some people more vulnerable than others - even if they live together peacefully; the absence of a common language and common norms reduces cooperation and increases the cost of transacting (W.Scully, 1995).

The growth question and convergence (absolute, conditional and club) hypothesis which sort to understand the differences in growth among nation –the so call growth-convergent dichotomy for many years turn away from the fact that the same question can be replicated (in-country) within a single and growing economy. But this time dealing with in-country differences resulting from multiculturalism and the attendant diverse demand pattern. Given the diversities across different ethnic groups there could be growth divergence associated with in-country inequality and poverty. This is because the political economy of a country can skew and reshape its growth pattern in such a way to favour some segment of the society which results from the application of aggregate economic policy that ignores multiculturalism.

The concept of multiculturalism, either from demographic, pragmatic or ideological point of view is gradually, but consistently being recognised by policy makers, social commentators, academics and the general public, particularly in the advanced economies. According to (Inglis, 1995) the rapid adoption of the term ‘multiculturalism’ has occurred in a situation where there is increasing international concern about the limitations of existing policies to address changing patterns of inter-ethnic relations. The current study is though not meant to go into the detailed analysis and definition of multiculturalism; but to follow the line of thought of the growing international recognition of the importance of ethnic diversity and the need for policy shift to address this country-specific diversity in policies and programs – implementation of economic policy based on cross-section pattern of demand. This does not only ensure optimal distribution of scarce resources, but cost savings in terms of efficient expenditure management. For detailed analysis and definitions and the contending issues relating to multiculturalism see the study by (Inglis, 1995).

Learning from the experiences of countries like Australia, Canada, and Sweden who have officially adopted multiculturalism as their model for managing cultural diversity, it is evident that the overall effectiveness of multiculturalism as a policy model depends not on any one program or policy initiative but on their cumulative effect, thus creating more role for the of Government in a market economy. The limited role ascribed to Government in a market economy notwithstanding, there is the acknowledgment that the public sector should try to help the economy through allocation and re-allocation (redistribution of income) of resources, efficiency in the use of
resources and attaining full employment, low and stable inflation, reduce scarcity, and more importantly achieve general economic stability and growth. This is done by designing and implementing a budget policy that ensures the optimum allocation of resources and determination of public-private goods mix. Thus budget provides the platform to assess the economic position of the economy, financial resources information, expenditure distribution, income and wealth distribution, indications of economic policies and strategy, prioritization of sectors – external and domestic (consumers and producers), and employment.

The determination of actual expenditure levels for optimal resources distribution and growth stabilization has evolved overtime with attendant refinements. One of the growing measures of ensuring efficient allocation of government expenditure across different economic agent in an economy is the Medium Term Expenditure Framework (MTEF). The revolutionary trend brought by the Medium Term Expenditure Framework (MTEF) approach is a response to the challenges of macroeconomic balance, strategic allocation of resources, and operational. It attempts to improve the decision-making process so as to link Government policies, priorities and requirements with limited resources. This is also sacrosanct with development strategy which defines the central role and overriding national objective of macroeconomic policy in the areas of growth, poverty reduction, distribution and sustainability, http://www.guyana.org/NDS/chap06.htm.

Accordingly, improving the basis of the budget by moving away from the incremental approach to estimating the actual costs of Government activities in delivering goods and services and integrating the preparation and presentation of the recurrent and development budgets is necessary for achieving effective aggregate demand policy. In some countries such as Nigeria the budget is prepared with surprisingly little reference to the macroeconomic demand pattern or priorities. Rather higher weight is attached to balancing regional quota and the federal character without recourse to understanding the demand dynamics of the regions. This kind of problem arises because, oftentimes, there is little macroeconomic analytical capacity in the government, or the budget department has no contact with those who are capable and undertaking such analysis (Potter & Diamond, 1999). The absence of proper understanding of the relative economic needs of citizens in many occasions lead to wrong prioritization of government policy objectives, thus resulting to low outcome, non-distributive and defective. Thus aggregate demand policies will be easier and more effective if the macroeconomic constraints are linked to priority areas as it affects each homogenous group of consumers.

There is emerging body of literature which tends to question the possibility of optimal distribution of resources and efficient homogenous Government spending in a multicultural society with heterogeneous pattern of consumption. It documented a negative relationship between heterogeneous ethnic composition and economic growth, particularly in Sub-Saharan Africa where cultural and religious conflicts are difficult to manage. The special focus on consumption dynamics and multiculturalism has become increasingly necessary because even in countries like USA where conflicts arising from ethnic heterogeneity have been successfully tamed, individualism is giving way for group rights (W.Scully, 1995). Moreover understanding the cross-country differences in growth require understanding of the relationship between growth and public policies, as well as why countries choose varying public policies. In Sub-Saharan Africa, of the entire growth problems associated with low schooling, political instability, underdeveloped financial systems, distorted foreign exchange market, high government deficits, and insufficient infrastructure; high ethnic fragmentation was reported by (Easterly, et al., 1997) to substantially explain significant part of most of these problems. This is because in such economy, the distribution of resources could be efficient but the resulting income distribution may be socially unacceptable as a result of the complex nature of the society; thus as government redistributes income, it sacrifices efficiency in the name of equity.

2. Knowledge gap in perspective

The main purpose of this study is to show that, because demand pattern differs across the six regions that make up Nigeria (Oduh, et al., 2012), the response of households in these regions to economic policy differ, considerably. The implication being that using a homogenous or aggregate policy to address such regimented demand pattern may as well have its shortcomings. Therefore one cloth fits all kind of economic policy might not be able to address the human consequences of rapid economic adjustment in a diverse economy like Nigeria.

Nigeria, Africa's most populous (more than 170 million) country, is made up of more than 250 inexhaustible ethnic groups with more than 500 varying indigenous languages and customs, creating a country of rich ethnic diversity. Of these numerous ethnic groups and languages, the largest ethnic groups are the Fulani/Hausa, Yoruba, Igbo, accounting for 68% of population; Ijaw, Kanuri, Ibibio, and, Tiv accounts for 20%; while the other groups account for the remaining 12% (CIA, 2012). The ethnic groups irrespective of language and religious affiliations are categorized into two (North and South) generic geopolitical regions with six sub-sets of zones, namely North-central, North-east, North-west comprising the Northern region; South-east, South-south, and South-west comprising the Southern region. Economically, the Northern region which is predominantly into agriculture is the poorest with average poverty rate of 73.8% as against 63.3% of poverty rate in the Southern region. In spite of these obvious diversity which in most cases influences their pattern of consumption and demand (Oduh,
Drivers of Government policies in Nigeria are said to confuse success due to luck with success derived from careful planning and hard work. As a result the management of an aggressive public expenditure policy that addresses the economically deprived regions at a time of fiscal consolidation are hardly addressed (Bismarck Rewane, 2011). This problem arises because designs of macroeconomic policies are suggestive of homogenous pattern of demand; while ignoring the fact that across the regions (North-central; North-east; North-west; South-east; South-south; and South-west) the heterogeneity of demand is such that what works for a particular set of consumers might not work for others. Consequently, economic choices are driven by either cultural or religious or both factors, resulting to loss in technical and allocative efficiencies (W.Scully, 1995). Writing about the European single market (Canoy, et al., 2006) observed that services are notoriously heterogeneous such that what works for one service may not work for the other. The study highlighted on the need to understand the differences in consumer preferences or information deficiencies about the availability of specific services for the realization of the full potential of single market economy. Therefore the design of policy reform must rest on a firm basis of evidence and analysis and proper understanding and grasp of the challenging issues (Collier, et al., 2008).

The diversity in Nigeria’s socioeconomic, cultural and religious disposition in several respect plays-out in the regional consumption pattern such that a one-tailor fits all approach in macroeconomic policy have never and may never work. Because demand pattern differs, how consumers in these regions are affected is determined to a very large extent by their demand dynamics; and how they respond to changes in macroeconomic policies that drive this demand will also determine the effectiveness of macroeconomic policies that addresses these challenges. Government spending in Nigeria like most countries in the world forms a sizeable proportion of the aggregate demand, hence total economic activity. However, the decision to mobilize resources and allocate resources efficiently perhaps remains one of the most pervasive challenges among all the three levels of government. In fact the poor dispensation of government priority spending has led to the establishment of the fourth tier of government – community government in Imo state the South-eastern part of Nigeria. The poor delivery of government projects and the attendant poor outcome is without prejudice to the fact that public expenditure has increased rapidly as a result of growing population and highly volatile macroeconomic environment; thus the economic effects of public expenditure remains relatively unexplored (Aruwa, 2010).

The scientific contribution of this work therefore, is to demonstrate that how each of the six zones reacts to changes in macroeconomic fundamentals; and how symmetrically macroeconomic shocks are felt in different parts of the country mirrors the vulnerability of regions to macroeconomic shocks. This provides information on government macroeconomic policies that will have homogenous effects and those that will have heterogeneous effects on the basis of the regional inclination of household; as well as provide insight and direction for Government budget prioritization.

3. Methodology
We first used the same quarterly (2009Q2-2012Q1) panel data application and estimation in (Oduh, et al., 2012) and reproduce the same result which had assumed a common (homogenous effect of the regions to macroeconomic shocks) cross-section effect and coefficient for the entire region, but for brevity the result is not displayed here. For details see “understanding of the predictors of consumer sentiments: lessons for inflation targeting prospects in Nigeria”. Next we re-estimated the same model by decomposing the common coefficients into region-specific coefficients after which we tested for cross-section fixed effects.

The model was estimated as seemingly unrelated regression SUR. The six geopolitical zones that constitute the cross-section units are North-central, North-east, North-west, South-east, South-south, and South-west. The fixed effect model assumes a constant slope, but different intercepts across the zones. That is the model assumes no significant country differences (variables are homogenous), but might have varying effects owing resulting from group-specific characteristics, such as religion, occupational distribution across the zones, differences in political acceptability of policy shifts, and time lag of policy effect on the zones. For example the North is predominantly engaged in agriculture, South-west are industrialists and mainly in paid-employment, while the South-east is predominantly engaged in commercial activities. In terms of religion, the north is predominantly Moslems, while the south is predominantly Christians. These variations are expected to affect both the size of household and demand pattern as stated in (Oduh, et al., 2012); and (Oduh, et al., 2012).

3.1 Model Specification
Variety of macroeconomic variables affect consumer confidence, including prices of durables and non-durables, expectations of future income and employment, the current level and expectations of future interest rate movements, trends in unemployment and changes in perceived job security, money supply and monetary policy rate,
anticipated changes in government taxation and subsidy, changes in household wealth including movements in
house and share prices (Oduh, et al., 2012); (AmosWEB, 2012); (Chris G. Christopher, 2011); (Ferguson, 2011);
(Çelik, et al., 2010); (Mendonça, 2009); and (Ludvigson, 2004). The choice of variables in the current study is
guided accordingly, but paying attention to the country’s peculiarity as well as data limitation.

3.1.1 Model with Cross-section common effects

\[ CCI_{it} = \alpha + \beta x_{it} + \varepsilon_{it} \]

where \( i = 1,2,\ldots,6 \) cross-section units of the six geopolitical zones in Nigeria and periods \( t = 2009Q2 \) to \( 2012Q1 \),
while \( \mu_i \) is the one-way error term. The dependent variable \( (CCI) \) represents cross-section of consumer confidence which mirrors household reaction to changes in macroeconomic variables. The explanatory variables \( (x) \)
contains sets of cross-section specific coefficient such as, current income \( (Y_0) \), expected income in the twelve months \( (Y_3) \), consumer price index of durables \( (CPID) \), consumer price index of food \( (CPIF) \), savings/deposit rate \( (SAV) \), and index of expected change in official exchange rate \( (EXR) \).

3.1.2 Model with cross-section specific effects

\[ CCI_{it} = \alpha_{it} + \beta x_{it} + \varepsilon_{it} \]

The error component disturbances is decomposed into individual region fixed effects \( (\varepsilon_i) \), and other disturbances
term \( (\varepsilon_t) \). This is as specified in case (3).

\[ \varepsilon_{it} = \varepsilon_i + \nu_{it} \]  \( (3) \)

We also account for variations across the regions by introducing pool fixed effects. This is introduced by using
different intercepts estimated for each pool member. The fixed effect is as defined in case 3.

\[ \alpha_{it} = \alpha_{it}^{NC} \]  \( (4) \)

3.2 Identification of variables and data handling

For cross identification of the variables in the pool, the following identifiers were used: _NC (North-central); _NE (North-east); _NW (North-west); _SE (South-east); _SS (South-south); and _SW (South-west).

4. Analysis of results

Econometric results obtained from fixed effects test and seemingly unrelated regression equation RUR are pre-
presented in tables 2 and 3 (appendix A). Table 2 shows presence of fixed effects across the regions. When common
coefficient is estimated as in (Oduh et al) for the regions, they display no (common) effects; but when disaggre-
gated they show evidence of fixed effects. The implication being that the aggregation of regions for policy im-
plementation is prone to loss of information about the demand dynamics of the regions. And because this infor-
mation is not captured one will also expect a welfare loss resulting from the non-implementation of all inclusive
economic policy. For brevity, North-central, North-east, and North-west zones are grouped under Northern
region; while South-east, South-south, and South-west zones are analysed under Southern region. Finally, for
model simplicity we marginalised all the variables that did not contribute to the explanatory power of the system
in either of the zones and re-estimated the model.

4.1 Income (INC0 and INC3)

Income is disaggregated into current \( (INC0) \) and expected \( (INC3) \) income. The expected income is proxied with
consumer outlook of expected income in the next 12 months, while current income is household income in the
current quarter – short and long run income.

North-central (NC) responds positively to both the short and long run increase in income, but relatively at-
ach higher weight to long run income as shown in table 3 (frame 1 appendix A). Increase in current and ex-
pected income by 10% boosts consumption sentiments of household in the zone by 2.2 % and 3.5% (1% signifi-
cant level) respectively. Also following the same trend, households in the North-east (NE) and North-west (NW)
respond positively and significantly to both short and long run income shocks; but with higher weights attached
to short run income; perhaps a reflection of the importance of the short run marginal propensity to consume
MPC over the long run MPC as highlighted in (Oduh et al 2012). A 10% increase in current and future income
increases consumer confidence in the two zones by 6.0% and 3.3% (North-east) and 7.4% and 2.2% (North-west)
respectively, table 3 (second and third frame appendix A). In-fact the effect of SR income of households in the
North-west zone is approximately three-times the LR effects. Incidentally, this zone is the poorest (table 1 ap-
According to NBS, unemployment rates in Nigeria are conservatively estimated to be in the neighbourhood of (18% urban and 26% rural) 24% by NBS. In this section, we examine how households in different zones will react or are affected by the expected rise in unemployment, as supposed above the current rate, since unemployment index used in the survey depicts outlook in the next 12 (twelve) months. In Table 1 we present trends in Small and Medium Enterprises (SMEs) and poverty incidence across the zones to show variations in self-employment as well as their level of vulnerability to poverty in 2010.

North-central and North-west for whatever reason displayed surprising positive relationship between expected unemployment and household confidence. Perhaps because they are predominantly farmers, as such a rise in unemployment positively correlates with increase in labour supply which also leads to fall in wage rate in the agricultural sector. This positive and significant relationship however, may require further scrutiny. On the other hand North-east conforms to significant and negative a priori relationship between expected unemployment and consumer confidence. Expected rise in unemployment by 10% have a dampening effect on consumer confidence in the NE zone by 2.0%, Table 3 (second frame appendix A).

The three zones (South-west, South-south, and South-east) in the Southern region are expected to react negatively to expected rise in unemployment. The result shows that if consumers in this region expects a 10% rise in unemployment, there confidence on the economy dampen by 2.2% (South-east); 2.3% (South-south) and (South-west) respectively. Of the three zones, the SE attaches less weight to unemployment which also reflects the fact that there is more in commercial activities and less of wage-paid employment relative to other two zones in this region.

### 4.3 Prices of durables and non-durables (CPID and CPIF)

The CBN survey captured the impact of durables and non-durables by looking at the index of favourable outlook of consumers to purchase durable and non-durables in the next 12 months. Though the survey was silent on the parameters used by consumers in determining favourable and non-favourable buying conditions, but we can use economic theory as guide. There are two dominants economic factors in this regard, income and prices of durables and non-durables. That is consumers will favourably purchase a commodity, in our case durables and non-durable if their prices fall at a given income level.

The result shows that North-central which is the richest in the Northern region reacts positively even if the buying conditions of both durables and non-durables are not favourable, but attach higher weights to durables; while North-east and North-west the poorest in the region as well as the country react negatively to upward movements in prices of durable and non-durables, with North-west attaching more weights (0.76) and relevance to durables. If buying condition of durables and non-durables worsens by 10% consumer confidence in the North-east declines by 1.9% (durables) and 1.8% (non-durables); while in the North-west it declines by 9.1% (durables) respectively.

On the other hand in the Southern part it is only the South-east that reacts negatively to unfavourable buy-
ing condition of both durables and non-durables, but with higher weights attached to durables. If buying condition worsens by 10% consumer confidence in the SE declines by 6.6% (durables) and 1.4% (non-durables). South-south (second richest in the country) statistically does not bother about unfavourable movement in the prices of non-durables, while South-west surprisingly reacts negatively to increase in the prices of non-durables, but worry less, statistically about price of durables. If buying condition of non-durables dampens by 10% households in the South-west are affectedly negatively by about 1.6%.

The case of south-west (richest in the country) presents a challenge to theoretical underpinning which tends to suggest that affluence is associated with less expenditure on non-durables, particularly food. It goes to suggest that affluence in Nigeria is associated with large families and dependants hence increase in the demand for food and other non-durables. This perhaps explains the negative reaction of high income zones to increase in the prices of non-durables. Also see the study by (Oduh, 2012b) on the difference between statistically and economically growing middle class and the dynamics of poverty and income distribution in Nigeria.

4.7 Savings (SAV)

As shown in the determinants of planned spending (Oduh, et al., 2012), there is poor savings habit at the aggregate level occasioned by weak interest rate as a transmission mechanism that links monetary and the real sector. The same scenario played-out at the regional level as two out of the six zones have good outlook to increase spending on savings.

In the Northern region, only the consumers from the North-west express the optimism to increase expenditure on savings if there is positive economic shock, while the North-central and North-east are not perturbed.

In the Southern region, the South-east expectedly shows readiness to expend more on savings when there is positive economic shock. The South-south and South-west are not favourably disposed positively or negatively to increase saving irrespectively of the direction the economy is heading to.

4.8 Exchange rate (EXR)

All over the world, there is controversy about the required level of exchange rate appreciation that is sacrosanct with the developmental need of the developing countries. While some favour depreciation so as to increase the competitiveness of exports, others favour exchange rate appreciation which follows that argument for import dependent nation like Nigeria. The same mixed reactions showed-up in the result in table 3.

North-east and North-west favour exchange rate depreciation and appreciation respectively; while North-central is unperturbed. A 10% increase (depreciation) in exchange rate positively affects the economy outlook of households in the North-east by 0.5%; while North-west is negatively affected by 1.2%

The same mixed reaction played-out in the Southern region as South-east favours appreciation, while South-south and South-west favour depreciation. Exchange rate appreciation by 10% boosts the sentiments of consumers in the south-east by 2.4%, while the South-south and South-west are negatively affected by 2.2% and 0.9% respectively.

The general trend in exchange rate across the zones shows that it does not have any known consistent pattern; thus posing a serious challenge for expenditure switching policy. While the North-west, South-east and the South-west favour exchange rate appreciation; North-central, North-east and South-south favour depreciation.

5. Conclusion

The study investigated the responsiveness of regions to macroeconomic policy using consumer confidence as a proxy. Macroeconomic variables used in the analysis include current and expected income, prices of durables and non-durables, exchange rate expectation, expenditure on savings, and expected unemployment rate index. To account for variations in demand, fixed effect panel regression was estimated as SUR, accounting for cross-section weights. For detailed insight into the macroeconomic variables that account for changes in consumer confidence, income and prices were disaggregated into current income, and expected income; while price was decomposed into durables and non-durables.

The paper asserts that income policy be applied at the aggregate level since all the regions are simultaneously affected by changes in income. In the alternative price policy can be used because it has a systemic and definable impact across the regions. In this way real income can be manipulated depending on the policy objectives. In terms of employment, households from the Southern part of the country will more probably favour wage-paid employment policy; while those from the Northern region will favourably be impacted by self-employment policy. On the other hand exchange rate will be a weak expenditure-switching policy because it does not have any systemic or consistent pattern of impacts.

References


Oduh, M. O. (2012b). The Dynamics of Poverty and Income Distribution: Is the Nigerian Middle Class Statistically or Economically Growing. Developing Country Studies, Vol 2; No 7, 84-94.


Appendix A: Presentation of results

Table 1: Zonal Distribution of Small and Medium Enterprises and Poverty Incidence in Nigeria, 2010

<table>
<thead>
<tr>
<th>ZONE</th>
<th>Small Enterprises (SEs)</th>
<th>Medium Enterprises (MEs)</th>
<th>Total</th>
<th>National Incidence of SMEs (%age)</th>
<th>Incidence of Relative Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of (SEs)</td>
<td>%age</td>
<td>Number of (MEs)</td>
<td>%age</td>
<td>Total</td>
</tr>
<tr>
<td>NORTH-CENTRAL</td>
<td>2960</td>
<td>645.6</td>
<td>262</td>
<td>54.4</td>
<td>3222</td>
</tr>
<tr>
<td>NORTH-EAST</td>
<td>1480</td>
<td>546.9</td>
<td>138</td>
<td>53.1</td>
<td>1618</td>
</tr>
<tr>
<td>NORTH-WEST</td>
<td>4682</td>
<td>657.4</td>
<td>328</td>
<td>42.6</td>
<td>5010</td>
</tr>
<tr>
<td>SOUTH-EAST</td>
<td>2350</td>
<td>468.6</td>
<td>170</td>
<td>31.4</td>
<td>2520</td>
</tr>
<tr>
<td>SOUTH-SOUTH</td>
<td>2864</td>
<td>557.6</td>
<td>208</td>
<td>42.4</td>
<td>3072</td>
</tr>
<tr>
<td>SOUTH-WEST</td>
<td>6928</td>
<td>5732.0</td>
<td>546</td>
<td>27.0</td>
<td>7474</td>
</tr>
</tbody>
</table>

Source: Based on NBS-SMEDAN survey, 2010

Table 2: Redundant Fixed Effects Tests
Test cross-section fixed effects

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>3.789304</td>
<td>(5,24)</td>
<td>0.0114*</td>
</tr>
</tbody>
</table>


## Table 3: Seemingly Unrelated Regression estimates of predictors of consumer confidence

System: SYS01FIXEDEFFECT  
Estimation Method: Seemingly Unrelated Regression  
Sample: 2009Q2 2012Q1  
Total system (balanced) observations 72  
Linear estimation after one-step weighting matrix

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(43)</td>
<td>14.27093</td>
<td>-3.752980</td>
<td>0.0006</td>
</tr>
<tr>
<td>C(1)</td>
<td>0.215285</td>
<td>5.182887</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(7)</td>
<td>0.346781</td>
<td>8.619958</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(13)</td>
<td>0.262762</td>
<td>5.479666</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(19)</td>
<td>0.323192</td>
<td>5.090517</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(25)</td>
<td>0.241898</td>
<td>4.819364</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(44)</td>
<td>31.71157</td>
<td>9.699677</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(2)</td>
<td>0.598153</td>
<td>10.87655</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(8)</td>
<td>0.325008</td>
<td>24.64843</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(14)</td>
<td>-0.195957</td>
<td>-4.287492</td>
<td>0.0001</td>
</tr>
<tr>
<td>C(19)</td>
<td>-0.187522</td>
<td>-4.815116</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(26)</td>
<td>-0.175857</td>
<td>-8.195007</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(38)</td>
<td>0.051527</td>
<td>3.074427</td>
<td>0.0041</td>
</tr>
<tr>
<td>C(45)</td>
<td>21.24711</td>
<td>4.210086</td>
<td>0.0002</td>
</tr>
<tr>
<td>C(3)</td>
<td>0.742316</td>
<td>10.85496</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(9)</td>
<td>0.218565</td>
<td>4.396255</td>
<td>0.0001</td>
</tr>
<tr>
<td>C(15)</td>
<td>0.207602</td>
<td>2.097020</td>
<td>0.0433</td>
</tr>
<tr>
<td>C(21)</td>
<td>-0.910613</td>
<td>-6.471412</td>
<td>0.0000</td>
</tr>
<tr>
<td>C(33)</td>
<td>0.329929</td>
<td>3.954005</td>
<td>0.0004</td>
</tr>
<tr>
<td>C(39)</td>
<td>-0.116874</td>
<td>-3.214643</td>
<td>0.0028</td>
</tr>
<tr>
<td>C(4)</td>
<td>0.389979</td>
<td>10.81993</td>
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<td>C(10)</td>
<td>0.886978</td>
<td>26.56465</td>
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<td>C(16)</td>
<td>-0.224295</td>
<td>-5.736923</td>
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<tr>
<td>C(22)</td>
<td>-0.661643</td>
<td>-11.98616</td>
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<tr>
<td>C(28)</td>
<td>-0.142549</td>
<td>-7.301434</td>
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<td>C(34)</td>
<td>0.458446</td>
<td>10.83415</td>
<td>0.0000</td>
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<td>C(40)</td>
<td>-0.235795</td>
<td>-9.732885</td>
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<tr>
<td>C(5)</td>
<td>0.131180</td>
<td>3.416828</td>
<td>0.0016</td>
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<tr>
<td>C(11)</td>
<td>0.607205</td>
<td>15.57377</td>
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<tr>
<td>C(17)</td>
<td>-0.234695</td>
<td>-6.468323</td>
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<tr>
<td>C(23)</td>
<td>0.218889</td>
<td>3.942834</td>
<td>0.0004</td>
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<tr>
<td>C(41)</td>
<td>0.132053</td>
<td>3.908061</td>
<td>0.0004</td>
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<tr>
<td>C(6)</td>
<td>0.437433</td>
<td>4.634628</td>
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<td>C(12)</td>
<td>0.779616</td>
<td>11.07980</td>
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<td>C(18)</td>
<td>-0.233374</td>
<td>-3.037696</td>
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<td>C(30)</td>
<td>-0.163439</td>
<td>-2.327244</td>
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<td>C(42)</td>
<td>0.094282</td>
<td>2.188376</td>
<td>0.0354</td>
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Determinant residual covariance 0.023160

Equation: CCI_NC = C(43) + C(1)*INC0_NC + C(7)*INC3_NC + C(13)*UNR_NC + C(19)*CPID_NC + C(25)*CPIF_NC

Observations: 72
R-squared 0.894695 Mean dependent var 35.77500
Adjusted R-squared 0.806941 S.D. dependent var 14.23192
S.E. of regression 6.253285 Sum squared resid 234.6215
Durbin-Watson stat 2.278698

Equation: CCI_NE = C(44) + C(2)*INC0_NE + C(8)*INC3_NE + C(14)
*UNR_NE + C(20)*CPID_NE + C(26)*CPIF_NE + C(38)*EXR_NE
Observations: 12
R-squared 0.958420 Mean dependent var 25.32500
Adjusted R-squared 0.908525 S.D. dependent var 12.10245
S.E. of regression 3.660372 Sum squared resid 66.99161
Durbin-Watson stat 2.080996

Equation: CCI_NW = C(45) + C(3)*INC0_NW + C(9)*INC3_NW + C(15)
*UNR_NW + C(21)*CPID_NW + C(33)*SAV_NW + C(39)
*EXR3_NW
Observations: 12
R-squared 0.823101 Mean dependent var 33.15833
Adjusted R-squared 0.610822 S.D. dependent var 8.669849
S.E. of regression 5.408613 Sum squared resid 146.2655
Durbin-Watson stat 2.263044

Equation: CCI_SE = C(4)*INC0_SE + C(10)*INC3_SE + C(16)*UNR_SE +
C(22)*CPID_SE + C(28)*CPIF_SE + C(34)*SAV_SE + C(40)
*EXR_SE
Observations: 12
R-squared 0.927513 Mean dependent var 32.13334
Adjusted R-squared 0.920529 S.D. dependent var 9.061139
S.E. of regression 3.618459 Sum squared resid 65.46624
Durbin-Watson stat 2.664311

Equation: CCI_SS = C(5)*INC0_SS + C(11)*INC3_SS + C(17)*UNR_SS +
C(23)*CPID_SS + C(41)*EXR_SS
Observations: 12
R-squared 0.914722 Mean dependent var 30.22500
Adjusted R-squared 0.865992 S.D. dependent var 9.696216
S.E. of regression 3.549509 Sum squared resid 88.19311
Durbin-Watson stat 1.743277

Equation: CCI_SW = C(6)*INC0_SW + C(12)*INC3_SW + C(18)
*UNR3_SW + C(30)*CPID_SW + C(42)*EXR_SW
Observations: 12
R-squared 0.897005 Mean dependent var 39.05000
Adjusted R-squared 0.838151 S.D. dependent var 11.03725
S.E. of regression 4.440340 Sum squared resid 138.0163
Durbin-Watson stat 1.726487

Legend:**1%;*5% significant level