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Do Country Size and Trade Openness Affect OPEC's Volatility?

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Abstract
The volatility in the global macroeconomic performance has been a striking feature that absorbs recently more attention. Against many influential factors, the role of openness and country size became a prominent debatable issue in explaining economic volatility in the literature. In this paper, we aim at investigating the mechanisms through which output volatility is affected by trade openness and country size, also, introducing those factors that matter most for explaining growth volatility. By using a panel dataset of OPEC during the period of 1970-2012 and employing GLS technique, the main results are threefold. First, trade openness leads the OPEC members to experience more volatility in economic growth. Second, more fluctuation is accompanied with smaller country size. Third, during the period of inspection, government expenditure and democracy are correlated to less volatility in OPEC.
Keywords: Volatility, Country size, Openness, OPEC
JEL: C33, E32, F41

1. Introduction

Macroeconomic volatility is considered as an important determinant of a wide variety of economic outcomes. Numerous studies identify its effects on long-run growth (Ramey and Ramey, 1995), welfare (Pallage and Robe 2003 and Barlevy 2004), as well as inequality and poverty (Gavin and Hausmann, 1998). The question of what are the main determinants of macroeconomic volatility has thus attracted a great deal of attention in the literature (di Giovanni and Levchenko, 2008). The role of openness and country size became a prominent debatable issue in explaining economic volatility in the literature.

There is currently no consensus, either empirically or theoretically, on the nature of the relationship between trade openness and macroeconomic volatility. In part, this is because the mechanisms behind it are not well understood (di Giovanni and Levchenko, 2008). As Haddad *et al.,* (2012) argued an open economy is expected to face higher exposure to external shocks than one that is less reliant on trade to spark economic activity. However, since access to external markets also shields an economy against significant growth slowdowns due to domestic demand shortages, it is not ex-ante clear whether greater openness should be associated with higher or lower growth volatility. On one hand economic theory suggests that because the expansion of international trade entails integration into larger, deeper, more stable markets, and entail risk diversification, it actually promotes rather than reduce stability (Down, 2007). Some authors suggest that greater trade openness decreases economic volatility, Bejan (2004) and Cavallo (2005) ascertained that openness decreases output volatility. Cavallo (2008) found that openness has an overall stabilizing effect on volatility. The other perspective explains the trade openness put forward greater economic volatility, i.e. "compensation hypothesis" which was initiated by Cameron (1978). It implies with an increasing participation in international trade in goods and services, countries are more exposed to the pressures of the international economic environment. Unemployment becomes dependent on aggregate demand in world market. Therefore, national demand management policies become less effective. Even in a perfectly competitive economy with full employment, the state should compensate losers by income transfers, at least in theory. Transfers smooth out the immediate impact of international business cycles and thereby increase the scope of the public sector *ceteris paribus* (Bullman, 2008). Therefore, globalization leads to welfare state expansion, as governments strive to compensate potential globalization losers for the risks associated with increased international competition and volatility. There are numerous discussions on how global trade increases the economic volatility. Rodrik (1998) provided evidence that higher income and consumption volatility is strongly associated with exposure to external risk, proxies by the interaction of overall trade openness and terms of trade volatility. Easterly *et al.,* (2001) and Kose *et al.,* (2003) found that openness increases the volatility of GDP growth. Bekaert *et al.,* (2006) also discovered that greater trade openness increases the volatility of consumption growth. Bejan (2006) analyzed the relationship between trade openness and output volatility and found that higher trade openness is associated with higher output volatility[1].

A second notion that is discussed in the literature is country size-volatility nexus. Alouini and Hubert (2010) underlined that the higher sensitivity to external shocks and greater volatility of small countries is a

[1] See also Alesina and Wacziarg (1998), Razin *et al.,* (2002), Fiaschi and Lavezzi (2003), Karras (2006), Liberati (2006), Loayza *et al.,* (2007), for the impact of trade liberalization on the increase in volatility.

consequence of their more specialized economies. Indeed, large domestic markets mean that the covariance between world and domestic growth is higher, whereas small, specialized economies are more likely to face both idiosyncratic and common shocks. Crucini (1997) found that small economies experience more output volatility than large ones. Furceri and Poplawski (2008) showed an inverse relationship between country size and government consumption volatility. Also, Imbs (2007) stated that the larger number of sectors present in the economies of large countries account for the lesser volatility of output (See also Robinson (1960) and Easterly and Kraay (2000) for more details on this relation). In contrast, Rose (2006) used several economic indicators and found that size really doesn't matter for economic success. Therefore, whether size matters or not for economic performance, and whether it helps or hurts, is really an empirical question.

The main objective of this paper is investigating the effect of trade openness and country size on the economic volatility of OPEC within the period of 1970-2012. In order to achieve this objective the paper is structured into six sections. The introduction makes up Section 1. Section 2 as usual introduces related literature. Section 3 presents OPEC volatility trend. Section 4 describes the data and a brief description of variables. Section 5 sets out the econometric methodology. Section 6 concludes.

2. Literature review

The question of how openness and country size affect economic volatility has been hotly debated in the literature. However the link between trade openness and volatility has been initially documented by Cameron (1978), it still is focal point of interest for numerous studies like Hicks and Swank (1992), Rodrik (1998), Bernauer and Achini (2000), Burgoon (2001), Garrett and Mitchell (2001). Also many authors have supportive idea for the link between country size and volatility; Katzenstein (1985), Schiff (1997), Aghion and Howitt (1997), Rose (2006), Furceri and Karras (2007). In this part, we review the growing literature that focus on the mentioned link.

Hau (2002) related the volatility of the (trade-weighted) effective real exchange rate to the degree of trade openness of an economy. The theoretical part of paper presented an inter-temporal monetary model with nominal labor (factor) market rigidities. Both monetary and aggregate supply shocks are shown to imply a (non-linear) inverse relationship between the import share of an economy and the volatility of its real exchange rate. Empirical evidence on a cross-section of 54 countries confirmed that difference in trade openness explain a large part of the cross-country variation in the volatility of the effective real exchange rate.

Bowdler and Malik (2005) examined evidence linking trade openness and inflation volatility using a dynamic panel model that controls for the endogeneity of openness and the effects of both average inflation and the exchange rate regime. The relationship is found to be strongest amongst developing and emerging market economies. They showed that openness reduces the volatility of reserve money growth and terms of trade growth and that, these effects contribute to the relationship between openness and inflation volatility.

Cavallo (2007) presented new empirical evidence on the net effect of trade openness on output volatility for a single-section of 77 countries (21 of which are OECD). The methodology employed seeks to correct for the likely endogeneity of trade in this setting using gravity estimates as instrumental variables. The results confirmed that the net effect of trade openness on output volatility is stabilizing. In addition, splitting the sample into countries that are more exposed to capital flows and countries that are less exposed, the paper showed that the stabilizing effect of trade predominates in the first sub-sample.

Furceri and Karras (2007) investigated the empirical relationship between business cycle volatility and country size by using a panel data set that includes 167 countries from 1960 to 2000. The results suggested very strongly that the relationship between country size and business cycle volatility is negative and statistically significant. It implied that smaller countries are subject to more volatile business cycles than larger countries. Moreover, the results were robust to different sample periods and several methods which show country size really matters, at least in terms of cyclical fluctuations.

di Giovanni and Levchenko (2008) used industry-level data to document several aspects of the relationship between openness and volatility. The main conclusions of the paper can be summarized as follows. First, higher trade in a sector is associated with higher volatility in that sector. Second, more trade also implies that the sector is less correlated with the rest of the economy. Third, higher overall trade openness comes with increased specialization in the economy. The sum of these effects implied that moving from the 25th to the 75th percentile in the distribution of trade openness was associated with an increase in aggregate volatility of about 17.3% of the average aggregate variance observed in their sample.

Haddad *et al.,* (2012) in a study addressed the mechanisms by which trade openness affects growth volatility. Using a diverse set of export concentration measures, they presented strong evidence pointing to an important role for export diversification in conditioning the effect of trade openness on growth volatility. Indeed, the effect of openness on volatility was shown to be negative for a significant proportion of countries with relatively diversified export baskets.

Mujahid and Alam (2014) studied the empirical relationship between trade openness and demand-price volatilities and for that used JJ co integration technique for long run relationship and vector error correction

for short run relationship. The results suggested that in Pakistan the trade openness has positive and significant effect in long run on demand volatility implies that the higher degree of trade openness cause greater demand volatility and the verification of compensation hypothesis. Similarly, the speed of adjustment of trade openness has significant and negative impact on demand volatility in short run. But, the country size has negative significant effect on demand volatility in long run only. On the other hand, trade openness has significant and negative effect on price volatility. Moreover, country size has positive effect on price volatility in long run which implies high population creates more fluctuation in prices due the gap of demand-supply for more goods and services. However, in short run trade openness and country size has significant effect on demand-price volatility.

3. OPEC volatility[2]

OPEC is an international Organization of twelve developing countries, which are heavily reliant on oil revenues as their main source of income. Since oil revenues are so vital for the economic development of these nations, they aim to bring stability and harmony to the oil market by adjusting their oil output to help ensure a balance between supply and demand (Noguera and Pecchecnino, 2007). The OPEC was shaped to push two economic goals, the minimization of the volatility of oil markets and the promotion of the economic development of its member countries. Since, oil shocks have stagflation effect on the economy of an oil importing country, it seems the first goal plays more substantial role and it could be an infrastructure for ascertainable development. Shocks can down the rate of growth (and may even reduce the level of output, i.e. cause a recession) and they lead to an increase in the price level and potentially an increase in the inflation rate.

The world has witnessed fluctuations in oil price and it has been proved the exporting countries are more sensible to oil price shocks than importing countries. The economic situations of OPEC are necessarily affected by oil price, as; oil price shocks in periods of world turmoil exhibit a significant impact on OPEC's activity which causes a significant higher correlation between real activity and oil prices. Now, we supply some evidence of instabilities in oil price.

OPEC's formation has been attributed to the September 1960 by five oil-producing developing countries in Baghdad and membership grew to ten by 1969. In 1970, OPEC rose to international prominence and its member took control of their domestic petroleum industries and acquired a major say in the pricing of oil on world markets. During 1973, Arab members of OPEC imposed an embargo against the United States in retaliation for the U.S. decision to re-supply the Israeli military and to gain leverage in the post-war peace negotiations. The embargo both banned petroleum exports and introduced cuts in oil production. Therefore, it leads the increment in prices and cedes greater shares of revenue. The outbreak of the Iranian Revolution in 1979 accelerates the boost in oil price and second shock took place. After that, OPEC's control on crude oil pricing reduced and led to a reduction in the share of OPEC's global oil export. Before crashing in 1986, responding to a big oil glut, prices began to weaken. OPEC's share of the smaller oil market fell heavily and its total petroleum revenue dropped, causing severe economic hardship for many member countries. In the final part of the 1980s, prices rallied but to around half the levels of the early part and the OPEC share began to recover. Prices moved less dramatically than in the 1970s and 1980s. However, excessive volatility and general price weakness dominated the decade, and the South-East Asian economic downturn and mild Northern Hemisphere winter of 1998–99 saw prices back at 1986 levels. In 2000, an innovative OPEC oil price band mechanism helped strengthen and stabilize crude prices in the early years of the decade. But, a combination of market forces, speculation and other factors transformed the situation in 2004, pushing up prices and increasing volatility in a well-supplied crude market. Oil was used increasingly as an asset class. Prices soared to record levels in mid-2008, before collapsing in the emerging global financial turmoil and economic recession. OPEC became prominent in supporting the oil sector, as part of global efforts to address the economic crisis. All in all, it is obvious that OPEC's member experienced drastic price volatility in the whole duration from existence. As oil is one of the most important driving forces of the global economy, it has significant effect on economic growth and welfare. Theoretically, an oil price shock can be transmitted into the economy via various channels. Principally, a positive oil price shock will increase production costs and hence restrict output (input channel) (Barro, 1984). Energy intensive industrial production will be more affected than service based industries. A prolonged oil price increase will necessitate costly structural changes to production processes with potentially adverse employment effects. However, it is crucial to note that the frequency of oil price shocks (both positive and negative) increases perceived price uncertainty. According to Bernanke (1983), such oil price volatility will reduce planning horizons and cause firms to postpone irreversible business investments (uncertainty channel) (Rentschler, 2013). It can be concluded that oil fluctuations play crucial role for countries which oil profits constitute their main source of revenue.

[2] This part has been extracted heavily from OPEC's report

4. Data and description of variables

We utilizied data for a panel of OPEC countries mainly from World Bank and Polity IV; the longest period for which data are available for any single country is 1970 to 2012. The reason for using data from the 1970s onward is that the OPEC oil shocks signaled a new era for economic and social policymaking in which domestic politics were inextricably intertwined with international economics. An initial methodological issue is the measurement of volatility. Numerous studies have been found for the calculation of volatiles in different ways. The most obvious measure is the standard deviation of economic growth which is used by Akhtar and Hilton (1984), Rodrik (1997), Iversen (2001), Baum *et al.,* (2001), Mustafa and Nishat (2004), Cavallo (2007), Mujahid and Alam (2014). In so doing, our main dependent variable is output growth volatility, measured as the standard deviation of GDP per capita growth within each 5-year period.

As mentioned before in the introduction, the results from the literature on the effect of country size on economic volatility were quite ambiguous and did not converge to a global conclusion concerning this issue. In this study, we aim to shed some lights on this relation. For more understanding, presume the notion provided by Crucini (1997). Suppose that productivity rises in the smaller economy, while remaining unchanged in the larger economy. Physical capital will flow from the larger country to the smaller country until the marginal product of capital is again equated internationally. Owing to the asymmetry in economic size, the total amount of world capital that must be reallocated is quite small since each unit per capita reduction in capital in the large country increases the per capita capital stock in the small country many times over. As a consequence, the changes in investment and output in the small country, in presence to both domestic and foreign stocks, will be much larger than the changes in investment and output in the larger country. In line with this study, we expect country size to exert a negative effect on the volatility of OPEC. Country size as an explanatory variable encompasses several measures including political, economic and demographic. The political aspect is important but difficult to measure. The economic dimension focuses on GDP. GDP is easily quantifiable and makes rankings based on economic size straightforward, but in regressions analyzing growth determinants, it causes endogeneity problems and finally demographic dimension that has been widely used as the population. Many authors use this proxy to determine the size of country like Lloyd and Sundrum (1982), Salvatore (2001) and Furceri and Karras (2007). In this paper following Jalan (1982) we use a measure for country size: a multidimensional index of size generated using principal component analysis that includes population, GDP and arable land. Jalan's size index is computed as follows:

$$Size_{it} = \frac{100}{3}\left(\frac{Population_{it}}{Max\ Population_t} + \frac{Arable\ Land_{it}}{Max\ Arable\ Land_t} + \frac{GDP_{it}}{Max\ GDP_t}\right)$$

We run our analysis using this measure because we wish to demonstrate that country size encompasses more than just demographic dimensions. The use of this indicator enables us to avoid the shortcomings of either a purely demographic measure or one based on GDP. The next explanatory variable is openness, which is defined as the ratio of imports plus exports to GDP and is the most frequently used proxy for openness in the literature. To advance our understanding of economic volatility, we include two more variables. Government expenditure has a potentially important role in stabilizing aggregate demand and hence output. A higher share of government expenditure may be associated with a larger provision of public goods and services as well as a larger fraction of workers employed in the public sector. To the extent that government expenditure is more stable than other components of aggregate demand, it should reduce the overall volatility of aggregate income and output (a composition effect), and to the extent that a larger fraction of workers are public employees, it should also reduce the volatility of aggregate personal disposable income and aggregate private consumption (Mohanty and Zampolli, 2009). Fatás and Mihov (2001) employed a set of 20 OECD countries over the period 1960–97 and found a strong and robust negative correlation between measures of government size and the volatility of output. The next explanatory variable is democracy. It is expected that democracy is correlated with volatility. Democracy can be linked to greater stability in many ways. For example, if political actors unilaterally set policies, the variance of policies and outcomes will generally be higher than if policies are chosen through consensus. Democracies typically place constraints on political actors, so that no individual political entity may unilaterally set policies. Also, choosing an autocratic regime over democracy is like undertaking a risky investment. Discretionary power is therefore risky, and in an autocratic regime, economic performance is likely to be more volatile than under a democratic system (Mobarak, 2004). It has been argued, there are many sources that provide ratings on the level of democratization in various countries, but none of the measures of democracy is perfect (Asideu and Lein, 2011). For example, Poe and Tate (1994) stated that the Freedom House data on civil and political liberties, which are one of the most utilized data in the profession, are biased in favor of Christian nations and Western democracies. Casper and Tufis (2003) also cautioned that totally different measures of democracy, even once extremely correlated, might not be interchangeable as a result of they will turn out totally different results. Based on literature, three common measures are exist about measuring democracy: The first measure of democracy is derived from the data on political rights published by Freedom House. The second measure is derived from the democracy index published in Polity IV. The third measure is

the measure of democracy published in the International Country Risk Guide. Our focus attention leads us to the fact that most of the scant literature on democracy debate use Polity Project data. Therefore, in order to increase the credibility of our results, we use polity which is derived from the democracy index published by Polity IV. The Polity IV Project has rated the levels of democracy for each country and year using coded information on the general qualities of political institutions and processes, including executive recruitment, constraints on executive action, and political competition. These ratings have been combined into a single, scaled measure of regime governance: *the Polity score*. The Polity scale ranges from -10, fully institutionalized autocracy, to +10, fully institutionalized democracy.

With a minor modifications the model is the same as that used by Down (2007) and the goal of understanding the influential factors on economic volatility in OPEC the following proposed functional relationship is undertaken:

$$Vol_{i,t} = \alpha_0 + \beta_1 Siz_{i,t} + \beta_2 Opn_{i,t} + \beta_3 Exp_{i,t+} \beta_4 Dem_{i,t+} \varepsilon_{i,t}$$

In which the symbols are: Vol for output growth volatility, Siz for country size, Opn for trade openness, Exp for government expenditure, Dem for democracy, *i, t* and ε represent country, time and error term respectively. The statistical description of data are summarized in table 1.

Table 1: Descriptive statistics, 1970-2012

Variables	Mean	Std Dev	Minimum	Maximum
Vol	5.28	5.18	0.17	31.4
Siz	51.03	20.3	3.93	98.9
Opn	69.09	30.1	13.7	178.9
Exp	17.16	8.28	4.83	76.2
Dem	-2.66	15.8	-8.0	8.00

Source: Own calculation

As table 1 demonstrates, the average of volatility is 5.28 with fluctuations from 0.17 to 31.4. Country size experiences sharp volatility, about 95 percent point over the study duration. Openness is also unstable with an average near 69% and a range of 13.7 to a high of 178.9. Government expenditure with an average about 17.1% fluctuates between 4.8 to 76 percent. Between OPEC members, the diversification of democracy is in a range of -8 to 8.

5. Econometric methodology

The empirical analyses of panel data in this study comprise the following three steps. First, the stationary of data are examined by panel unit root tests. Second, Hausman and a test for exploring heteroscedasticity are used. Third, once the panel heteroscedasticity is established, the GLS technique is employed. The procedure of the tests represent in the following manner: Panel unit root tests → Hausman and Likelihood → GLS.

In the first step of our empirical analysis, it is crucial to ascertain the properties of the data series, in panel sense. To investigate the unit root properties for volatility, country size, openness, government expenditure and democracy of 12 countries in our sample, we apply the conventional augmented Dickey-Fuller (1979) (ADF), Im, Pesaran and Shin (2003) (IPS) and Levin, Lin and Chu (2002) (LLC) tests. These tests are widely known and understood, so we refrain from repeating the methodology here. The results are summarized in table 2.

Table2: Results of unit root tests

Variables	ADF	IPS	LLC
	I(0)	I(0)	I(0)
Vol	46.59	-1.742	-2.457
	(0.003)	(0.040)	(0.006)
Siz	179.9	-10.749	-2.897
	(0.000)	(0.000)	(0.001)
Opn	36.98	-1.494	-2.184
	(0.043)	(0.067)	(0.000)
Exp	41.68	-2.303	-2.112
	(0.014)	(0.010)	(0.017)
Dem	31.95	-2.775	-1.773
	(0.000)	(0.002)	(0.038)

Source: Own calculation

* The optimal lag structure is determined by Schwartz Bayesian Criterion

** The p-values are in parentheses

In these tests, the null hypothesis assumes existence of unit root in series. The results show that we are

able to reject the unit root null hypothesis at the conventional levels of significance for all the variables. The variables are stationary and there is no need to use co-integration test.

The next step is to choose between fixed effects model or random effects model. Baltagi (2001) emphasized that the choice between the fixed and random effects models should be solely based on theoretical consideration. In this study, in order to validate the choice of fixed effects, the Hausman specification test with an asymptotic chi-square distribution is performed. Before proceeding to the final estimation, test for dynamic heterogeneity across groups are performed. An issue that is of major concern is the heterogeneity of the countries included in the data set. It is well known that the presence of heteroscdasitcty in the disturbances of an otherwise properly specified linear leads to consistent but insufficient parameter estimates. As a result, faulty inferences will be drawn when testing statistical hypotheses in the presence of heteroscdasitcty (White, 1980). The results of Hausman test and Likelihood ratio test are summarized in table 3.

Table 3: Results of Hausman and heteroscdasitcty tests

Tests	Distribution	Stat.	Prob.
Hausman	Chi2 (4)	36.48	0.000
Likelihood ratio	Chi2 (4)	58.59	0.000

Source: Own calculation

The results show that the null hypothesis of random effects model should be rejected. This confirms that fixed effects model should be used. Based on the above table, the hypothesis based on the existence of homoscedasticity in variances should be rejected and the model has heteroscdasitcty.

In statistics, Generalized Least Squares (GLS) is a technique for estimating the unknown parameters in a linear regression model. The GLS is applied when the variances of the observations are unequal (heteroscdasitcty), or when there is a certain degree of correlation between the observations. In these cases, Ordinary Least Squares can be statistically inefficient, or even give misleading inferences. In this paper, we resolve this difficulty by using GLS technique and results are supplied in table 4.

Table 4: Results of GLS estimation

Variables	Coefficient	Std. error	Z	P>|z|
Siz	-0.050	0.013	-3.84	0.000
Opn	0.029	0.008	3.54	0.000
Exp	-0.005	0.0016	-2.98	0.008
Dem	-0.116	0.015	-7.63	0.000
Cons	5.903	1.182	4.99	0.000
Wald Chi2 (4)= 110.87		Prob>Chi2= 0.0000		

Source: Own calculation

All the explanatory variables which specified in the econometric function are seen to be significant elements in affecting economic volatility and the overall fit of the panel model is reasonable. The results are in general consistent with our expectation, the country size exerts a negative and significant effect on the fluctuations of GDP growth. This result is in line with the finding of Barro (1991) who used size measures to correct for possible heteroskedasticity in long run growth rates and Head (1995) that argued smaller countries lead to higher output variance. The next influential factor is trade openness, as, a one percent increase in openness leads to a 0.029 percent increase in GDP volatility. It clearly reflects that more openness implies higher integration of world goods and capital markets, contributing to potential gains in growth and welfare. However, more international integration could also lead to heightened external exposure, measured by the sensitivity of economic growth to openness and foreign shocks (Calderón *et al.,* 2005). This result is similar to the finding by Gali and Monacelli (1999) who, using a model of optimal monetary policy, show that an increase in openness, increase the volatility of output. Our econometric results demonstrate that OPEC members with large governments experience mild economic fluctuations. As mentioned before, government expenditure has an important role in stabilizing aggregate demand and hence output. This may be due to the fact that, a higher share of government expenditure reflect the existence of a more generous social security system, which involves providing transfers to a larger number of citizens, unemployment, pensions, and to companies. Therefore, more transfers to workers and companies reduce the volatility of their disposable income and stabilization of disposable income matters for output volatility. Also, Gali (1994) in his seminal research found that government size is negatively associated with output volatility. The last explanatory variable is democracy. We present strong evidence that democratic are more stable. As in our sample of OPEC countries, a one percent increase in democracy can go down growth volatility by about 0.11 percent.

6. Conclusion

The effects of trade openness and country size on macroeconomic volatility are theoretically ambiguous, so the issue must be resolved empirically. Most of the empirical evidence, however, has been mixed and inconclusive.

So, the present paper aims to evaluate the impact of trade openness and country size on output volatility using a sample of OPEC members for the period 1970-2012. The results of GLS technique show that, country size exerts a negative and significant effect on the fluctuations of GDP growth and trade openness as a share of exports plus imports in GDP show positive and significant effect on economic volatility. To deepen our understanding of the influential factors on OPEC volatility we also include two extra variables. Government expenditure exert negative and significant effect on the growth fluctuations. The effect of democracy is found to be negative, sizeable and statistically significant. The policy implications of the paper's results are straightforward. While there is not much economic policy can do to change an economy's relative size (at least in the short run), for most countries no such limitations exist regarding openness. Policies, national or global, which facilitate trade among countries, also promote macroeconomic volatility. OPEC members must pay more attention about the detrimental effects of openness and implement trade barriers to the trade liberalization.

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