# The Impact of Trade Liberalisation on the Economic Performance of OIC Member Countries

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This paper analyses the affect of trade liberalisation on imports, exports and GDP per capita of Organisation of the Islamic Conference (OIC) member countries that have gone through the trade liberalisation process since the 1970s. Using an approach that focus on the changes within-country across time, the study shows that the effects differ from one country to the next. However, on average, trade liberalisation process has improved the countries GDP per capita in the medium term. Unlike the effects on GDP, the ratio of imports, exports and trade over GDP did not improve after trade liberalisation.

## 1. Introduction

The 21st session of the Standing Committee for Economic and Commercial Cooperation of the Organisation of the Islamic Conference (COMCEC) stressed the need for member states to strengthen intra-OIC trade. This should be done through mutual economic cooperation and progressive trade liberalisation. There are OIC member countries that have liberalised their trading regime and reduced their tariffs and trade barriers for trade with both OIC and non-OIC member, however, some OIC member are still considered as closed economy. For example, as of 2010, only 38 of the 57 OIC member countries are WTO members.[2]

The reaffirmation of the OIC countries' commitment to trade liberalisation underlines the importance of trade for economic growth and development. Furthermore, the World Bank and the IMF have required trade liberalisation as a part of reform packages when agreeing

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[2] Source: www.wto.org

to loans (Foster, 2008). Theoretically, it is expected that trade liberalisation will help countries to gain the static and dynamic gains from trade. Trade liberalisation will help to promote growth from the supply side by leading to a more efficient use of resources, encourage competition, and increase the flow of ideas and knowledge across national boundaries (Parikh, 2006). Consequently, it will increase the growth of output, exports and imports, and improve economic welfare.

However, if the increase in the income elasticity of demand for imports due the liberalisation process is too great, it may constraint a country's economic growth in the long run (Thrilwall, 1979). Studies on trade liberalisation suggest that its impact on economic growth has not been similar across countries (Foster, 2008; Kneller, *et al.*, 2008). Theoretical models and empirical studies that show a positive association (Krueger, 1997; Grossman and Helpman, 1991; Frankel and Romer, 1999; Wacziarg, 2001) can be contrasted with studies that show a non-significant relationship (UNCTAD, 1989; Rodriquez and Rodrik, 2001). Furthermore, evidence showing a positive relationship between trade liberalisation and economic growth has not been as high as expected (Winters, 2004). Rodrik (1999) also noted that the import substitution policies followed in many developing countries until the 1980s were quite successful in some regards, and that their costs have been vastly exaggerated. Hence, it can be argued that the poor performance of developing countries in the 1980s was not due to their import substitution policies per se, but to the countries' inability to respond to economic shocks. Indeed, during the period of Washington consensus,[3] the world and regional growth rates have decreased except for China and the South Asian countries (Bosworth and Collins, 2003). The deterioration in regional economic growth rates opened the trade liberalisation policies to challenge.

With respect to the impact of liberalisation on the performance of imports, generally imports increase after liberalisation (Melo and Vogt, 1984; Bertola and Faini, 1991; Santos-Paulino, 2002a; Santos-Paulino and Thirlwall, 2004; Ju *et al.*, 2009; and Ghani, 2009). However, the findings with regard to the impact on exports are mixed. Santos-Paulino

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[3] The Washington consensus emphasises five key policies: (1) trade liberalisation and export-led growth, (2) financial market liberalisation and financial capital mobility, (3) fiscal and monetary austerity, (4) privatization, and (5) labour market flexibility.

(2002b), Thomas, *et al*. (1991), Bleaney (1999) and Ahmed (2000) showed an increase, but Greenaway and Sapsford (1994) and Jenkins (1996) showed a non-significant relationship. With respect to the impact on trade balance, Ostry and Rose (1992) showed that there is no statistically significant effect, but UNCTAD (1999), Santos-Paulino and Thirlwall (2004), and Parikh and Stribu (2004) showed that liberalization leads to a worsening of the overall trade balance. The importance of trade balance in determining economic growth is supported by Edwards (2004), who showed that current account reversals due to prolonged current account deficits may dampen economic growth; it may even lead to economic crisis. Milessi-Feretti and Razin (2000) emphasized the dangers of large current account deficits that must be compressed when external financing dries up.[4] Thus, knowing the impact of trade liberalisation on trade balance is important.

The sensitivity of the impact stemming from trade liberalisation suggests that there are conditional factors that have been omitted from the models. Variables suggested to explain the differences have included education, existing levels of development, the strength of domestic institutions, macroeconomic stability and measures taken to tackle corruption (Winters, 2004).

In light of the above discussion, the objective of this paper is to examine the effects of the trade liberalisation process on GDP per capita, imports and exports for the 24 OIC member countries that went through the trade liberalisation process between 1970 and 2001. The study shows that, for the OIC member countries, the trade liberalisation process has improved their GDP per capita in the medium term, but that the improvement of GDP per capita depends on whether the liberalisation process increased imports and exports. However, the ratio of imports, exports and trade over GDP has not improved after implementation of trade liberalisation policies.

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[4]Another concern is the decline in tariff revenue that is often a major source of revenue for developing countries. Baunsgaard and Keen (2005) find that low-income countries have not been able to offset reductions in trade tax revenues by increasing their domestic tax revenues.

## 2. The Impact of Trade Liberalisation on Economic Performance

The balance of payments (BOP)[5] constrained growth model shows that, in the long run, a country's economic growth is equal to the ratio of its export growth to import elasticity. Hence, if the increase in the income elasticity of demand for imports is too great due to liberalisation, it may constrain economic growth in the long term. The premise of the BOP model is that in the long run trade must balance; the value of exports must equal that of imports. In the short-run, a country can run a trade deficit financed by capital inflows, but it cannot finance an ever-increasing deficit, as deficits above a certain percentage of the GDP will trigger signals that will force an adjustment (Milessi-Feretti and Razin, 2000). Hence, trade deficits after liberalisation may indicate a problem in the long-term.

According to the BOP model, exports must equal to imports in the long run; hence, equating the value of exports to equal to that of imports, we have:

$$P_{d,t} X_t = P_{f,t} M_t FX_t \qquad\qquad (1)$$

where, $X_t$ and $M_t$ are the quantity of exports and imports during year $t$, $P_{d,t}$ is the domestic price of exports, $P_{f,t}$ is the foreign price of imports, and $FX_t$ is the exchange rate. Thirlwall and Hussain (1982), and Hussain (1999) extended[6] the model by adding capital flows to the left hand side of Equation 1. However, there are many instances in which the growth rate of capital flows have fluctuated widely, shifting between deficit and surplus (Perraton, 2003; Ghani, 2006), hence, we do not include capital flows in the model.

The quantity of imports at time $t$, $M_t$, and exports at time $t$, $X_t$, in (1) can be expressed using the multiplicative function of price and income:

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[5] Chenery and Bruno (1962) for the two-gap models and Bacha (1990) for the third gap. Ranaweera (2003) provides a summary of the World Bank's three-gap model and a critique of the single constraint model of Thirlwall (1979) and Thirlwall and Hussain (1982).

[6] Extensions of the BOP model have included the addition of capital flows and interest payments. See, for example, Moreno-Brid (2003). Elliott and Rhodd (1999) incorporated debt servicing to the model.

$$M_t = \left(\frac{P_{f,t}FX_t}{P_{d,t}}\right)^{\eta_m} Y_{d,t}^{\pi} \tag{2}$$

$$X_t = \left(\frac{P_{d,t}}{P_{f,t}FX_t}\right)^{\eta_x} Y_{f,t}^{\varepsilon} \tag{3}$$

where $\eta_m$ and $\eta_x$ are, respectively, the price elasticity of demand for imports and exports. $Y_{d,t}$ is domestic income and $Y_{f,t}$ is the world or trade partner's income. $\pi$ is the income elasticity of demand for imports, and $\varepsilon$ is the income elasticity of demand for exports. Taking the rate of change of the variables from (1), (2) and (3), we have:[7]

$$p_d + x = p_f + fx + m \tag{4}$$

$$m = \eta_m(p_f + fx - p_d) + \pi y_d \tag{5}$$

$$x = \eta_x(p_d - p_f - fx) + \varepsilon y_f \tag{6}$$

Substituting equation (5) and (6) into (4) and rearranging the balance of payments equilibrium growth rate can be expressed as:

$$y_d^{BOP} = \frac{(1 + \eta_m + \eta_x)(p_d - p_f - fx) + \varepsilon y_f}{\pi} \tag{7}$$

Assuming that, in the long run, $p_d = p_f + fx$, that is relative prices measured in a common currency are to remain unchanged, the balance of payments equilibrium growth rate is given by:

$$y_d^{BOP} = \frac{\varepsilon y_f}{\pi} = \frac{x}{\pi} \tag{8}$$

Hence, following the BOP model, growth rate differences among countries can be explained by how fast a country penetrates the world market (i.e., its export growth), and how good it is in serving its domestic market (i.e., its income elasticity of demand for imports). We

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[7] Time subscripts are dropped for convenience.

can also rearrange Equation 8 in a way that income elasticity of demand for exports multiplied by foreign GDP growth will equal income elasticity of demand for imports multiplied by domestic GDP growth. Assuming that imports and exports need to equal, this means that an increase in the income elasticity of demand for imports requires domestic growth to adjust downwards to equalise the level of exports, especially if there is no increase in exports, or if the increase in import elasticity is too great.

One way to interpret this relationship is as explained by Thirwall (1979); in an open economy, the dominant constraint is the balance of payments. A difficulty in the balance of payments will curtail demand, thus the potential supply will never be fully realised and investments are discouraged, which results in the slowdown of technological progress. The technological slowdown further reduces the country's competitiveness, thus there will be a vicious circle of slowing economic growth. However, if there is no constraint on the balance of payments, potential supply will be realized, investments are encouraged and thus a virtuous cycle of economic growth is started. Thirlwall (1979) also added that, indeed, the proponents of export-led growth policies are "postulating a balance of payments constraint theory of why growth rate differs" because the BOP model encourages exports in order to avoid balance of payments difficulty.

The importance of import and export growth and their income elasticities in determining long-term economic growth means that the impact of trade liberalisation on the growth of imports and exports is important. If the growth of imports after liberalisation is much greater than that of exports, the liberalisation process may constrain economic growth; thus, countries need to be cautious in the timing of trade liberalisation (Santos-Paulino and Thirlwall, 2004).

## 3. Trade Liberalisation and Economic Performance of the OIC Member Countries

In order to determine whether a member country has gone through a trade liberalisation episode, this study used the trade liberalisation data compiled by Wacziarg and Welch (2008) that includes 140 countries; this is an update of the Sachs and Warner (1995) liberalisation dates. Forty-one of the 57 OIC member countries are included in Wacziarg and

Welch (2008). Countries that are not included are: Afghanistan, Bahrain, Brunei, Comoros, Djibouti, Iraq, Kuwait, Lebanon, Libya, Maldives, Oman, Palestinian Authority, Qatar, Saudi Arabia, Sudan, Suriname and U.A.E.[8]

Of the 41 countries covered, 28 have liberalised their trading regime, and 13 countries were considered 'closed' as of 2001. Of the 28 countries that have gone through the trade liberalisation process, Indonesia, Jordan and Malaysia were classified as open on or before the 1970s, and Yemen was classified as always open; we did not include these countries in the regression. Countries that were considered closed as of 2001 were: Algeria, Chad, Gabon, Iran, Kazakhstan, Nigeria, Senegal, Somalia, Syria, Togo and Turkmenistan.

Table 1 reports the summary statistics for per capita GDP for the five years before, during and after the countries' liberalisation. It shows that the mean for the growth of GDP per capita increased, and the standard deviation was reduced after liberalisation. Before trade liberalisation, 12 countries had positive GDP per capita growth, but after liberalisation 21 countries had positive growth. However, the mean and standard deviation for GDP per capita are sensitive to the inclusion of Azerbaijan and Tajikistan. The collapse of the Soviet Union in 1991, and the resulting independence of Azerbaijan and Tajikistan in 1991, heavily influenced the averages; the two countries liberalized their trading regimes in 1995. The exclusion of these two countries reduces the mean growth and standard deviation significantly, and hence they are excluded from the regressions. Table 2 shows the ratio of imports and exports as a percentage of GDP for the period before, during and after liberalisation. The growth of real imports and exports has not been included because of unavailability of data. On average, the level of exports and imports per GDP increases after liberalisation, and their standard deviation decreases.

Even though there are improvements in the mean and standard deviation of the variables, the statistics across the countries do differ significantly. The disparity in the statistics for the different countries suggests that the impacts are conditional on many other factors, rather than on trade liberalisation alone.

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[8] There are also problems with data availability for these countries.

## Table 1: Growth of GDP/Capita Five Years Before, During and After Trade Liberalisation

| | Year of Uninterrupted Openness Begin | Growth GDP per Capita Five years Before Liberalisation | Growth GDP per Capita Five years During Liberalisation | Growth GDP per Capita Five years After Liberalisation | Differences after and before Liberalisation |
|---|---|---|---|---|---|
| Albania | 1992 | 0.59 | -4.46 | 6.82 | 6.23 |
| Azerbaijan | 1995 | -16.73 | 1.54 | 9.73 | 26.45 |
| Bangladesh | 1996 | 2.43 | 3.01 | 3.62 | 1.19 |
| Benin | 1990 | -1.21 | 0.37 | 1.92 | 3.13 |
| Burkina Faso | 1998 | -0.27 | 4.49 | 1.89 | 2.16 |
| Cameroon | 1993 | -2.40 | -6.44 | 2.02 | 4.42 |
| Cote d'Ivoire | 1994 | -1.52 | -3.58 | 2.26 | 3.79 |
| Egypt | 1995 | 1.46 | 3.09 | 1.76 | 0.30 |
| Gambia | 1985 | 1.07 | -0.73 | -1.26 | -2.33 |
| Guinea | 1986 | -1.08 | 1.36 | -0.19 | 0.89 |
| Guinea-Bissau | 1987 | 0.27 | 1.34 | 0.86 | 0.59 |
| Guyana | 1988 | -4.48 | -0.65 | 5.34 | 9.82 |
| Kyrgyz Rep. | 1994 | 4.22 | -11.18 | 2.05 | -2.17 |
| Mali | 1988 | -3.03 | -0.45 | -1.21 | 1.82 |
| Mauritania | 1995 | -1.70 | 1.31 | 0.37 | 2.07 |
| Morocco | 1984 | 3.60 | 0.44 | 2.75 | -0.84 |
| Mozambique | 1995 | 0.34 | 4.86 | 4.53 | 4.19 |
| Niger | 1994 | 1.29 | -3.28 | 0.06 | -1.24 |
| Pakistan | 2001 | 0.93 | 1.85 | 3.82 | 2.89 |
| Sierra Leone | 2001 | -6.28 | 9.28 | 3.44 | 9.72 |
| Tajikistan | 1996 | -16.53 | -4.99 | 8.45 | 24.98 |
| Tunisia | 1989 | 2.00 | 0.07 | 2.88 | 0.88 |
| Turkey | 1989 | 1.33 | 2.77 | 1.80 | 0.47 |
| Uganda | 1988 | -0.46 | -0.49 | 2.47 | 2.93 |
| | | | | | |
| Average | -1.51 (-0.13) | -0.02 (0.14) | 2.76 (2.18) | 4.26 (2.31) | |
| Maximum | 4.22 | 9.28 | 9.73 | 5.51 | |
| Minimum | -16.73 | -11.18 | -1.26 | 15.47 | |
| Stan. Dev. | 5.23 (2.50) | 4.19 (4.23) | 2.73 (2.00) | 7.29 (3.22) | |

Notes: Statistics in parenthesis are after the exclusion of Azerbaijan and Tajikistan.

**Table 2: Ratio of Export and Import over GDP Five Years Before, During and After Trade Liberalisation**

| | Export/GDP | | | Import/GDP | | |
|---|---|---|---|---|---|---|
| | Before Liberalisation | During Liberalisation | After Liberalisation | Before Liberalisation | During Liberalisation | After Liberalisation |
| Albania | 16.22 | 12.07 | 12.66 | 17.88 | 48.11 | 34.58 |
| Azerbaijan | 51.57 | 27.42 | 42.71 | 48.33 | 49.30 | 52.80 |
| Bangladesh | 7.68 | 12.09 | 14.66 | 13.21 | 18.20 | 20.12 |
| Benin | 16.58 | 15.74 | 17.05 | 31.42 | 28.20 | 29.56 |
| Burkina F | 10.68 | 11.57 | 9.33 | 22.61 | 26.59 | 23.10 |
| Cameroon | 22.03 | 19.61 | 22.26 | 21.73 | 16.55 | 17.88 |
| Cote d'Ivoire | 36.44 | 32.72 | 40.81 | 29.83 | 27.49 | 33.04 |
| Egypt | 16.68 | 24.93 | 18.68 | 29.58 | 31.51 | 25.56 |
| Gambia | 57.64 | 47.64 | 43.09 | 71.26 | 59.30 | 53.68 |
| Guinea | 29.37 | 29.84 | 27.11 | 28.10 | 29.55 | 28.81 |
| Guinea-Bi | 10.23 | 9.54 | 10.03 | 40.48 | 45.17 | 38.39 |
| Guyana | 58.61 | 60.79 | 103.70 | 74.39 | 69.46 | 123.17 |
| Kyrgyz Rep. | | 33.48 | 35.44 | | 43.00 | 52.03 |
| Mali | 15.28 | 16.33 | 17.93 | 30.51 | 36.33 | 35.05 |
| Mauritania | 35.61 | 37.76 | 34.32 | 47.20 | 48.59 | 64.36 |
| Morocco | 18.13 | 20.38 | 24.10 | 33.47 | 30.95 | 28.34 |
| Mozambiqu | 11.68 | 13.83 | 26.30 | 42.03 | 30.68 | 41.42 |
| Niger | 19.28 | 15.60 | 16.83 | 25.12 | 20.70 | 24.11 |
| Pakistan | 16.31 | 15.14 | 14.56 | 19.22 | 15.29 | 20.16 |
| Sierra Leone | 15.82 | 19.58 | 23.58 | 24.84 | 36.88 | 33.88 |
| Tajikistan | 28.45 | 68.88 | 70.78 | 35.24 | 74.28 | 79.75 |
| Tunisia | 37.17 | 36.70 | 41.77 | 45.99 | 40.11 | 47.65 |
| Turkey | 10.67 | 15.92 | 15.33 | 15.22 | 17.63 | 18.26 |
| Uganda | 13.05 | 10.06 | 7.85 | 18.72 | 16.83 | 21.17 |
| Average | 24.14 (22.63) | 25.32 (23.24) | 28.79 (26.24) | 33.32 (32.51) | 35.86 (33.51) | 39.45 (37.01) |
| Std Dev | 15.25 (14.66) | 15.86 (13.43) | 21.64 (20.32) | 16.06 (16.48) | 16.37 (14.45) | 23.78 (22.96) |

Note: Statistics in parenthesis are after the exclusion of Azerbaijan and Tajikistan.

## 4. Empirical Method

In order to formally examine the effect of trade liberalisation on the economic performance of the OIC member countries, this study followed Kneller *et al.* (2008) approach by focusing on the changes within-country across time for countries that are associated with trade liberalisation. The study uses a panel of OIC member countries that have gone through the liberalisation episodes since the 1970s, and divide the period for every country into three terms: five years before, during and after liberalisation. The year of trade liberalisation is in one of these periods: 1975–79, 1980–1984, 1985–89, 1990–94, 1995–1999 or 2000-2004. The empirical model tests whether there is a difference in terms of the growth in GDP per capita, the level of exports per GDP and imports per GDP in the period before and after the liberalisation process. The model is as follows:

$$y_{it} = \alpha + \beta\, \text{LIB}_{it} + \mu_i + v_{it}, \tag{9}$$

where $y_{it}$ is the growth of GDP per capita at time $t$, LIB is the trade liberalisation dummy that equals to zero for the period five-year before liberalisation, and equal to one for the five-year periods during and after liberalisation. The coefficient $\beta$ measures whether the growth of GDP per capita is significantly different before and after liberalisation. If the liberalisation process improved GDP per capita, the coefficient $\beta$ will be positive. To examine the effect on exports and imports, we replace GDP per capita with the ratio of imports and exports over GDP.

Table 3 reports the fixed-effects regression's results. The first and second columns report the results when the growth of GDP per capita is used as the dependent variable. In the second column, the two outliers, Azerbaijan and Tajikistan, are omitted from the regression. Columns 3, 4 and 5, respectively, report the result when the ratio of imports per GDP, exports per GDP and trade per GDP are used as the dependent variable. The results indicate that trade liberalisation in the OIC member countries has not improved the GDP per capita, import/GDP and export/GDP of these countries, as the $\beta$s are not statistically significant.

However, the impact of trade liberalisation may not be immediate. Greenaway *et al*. (2002) suggested that the impact may follow a J-shape and be complete only after five years. Taking into account the

immediacy of the effect, the study droped the five-year period during liberalisation from the regression. Table 4 reports the regressions results. It shows that the omission of the period during liberalisation affected the statistical significance of the GDP per capita growth rate. The liberalisation process improved the growth of GDP per capita by about 2 per cent. However there is no change in the non-significance of the results for the ratio of imports, exports and trade per GDP.

**Table 3: The Impact of Trade Liberalisation on Economic Performance**

|  | $\Delta$GDP/ Capita[a] | $\Delta$GDP/Capita | Import/GDP | Export/GDP | Trade/GDP |
|---|---|---|---|---|---|
| $\alpha$ | -1.804 | -0.262 | 32.91* | 23.436* | 55.849* |
|  | (1.02) | (0.74) | (1.83) | (3.53) | (3.02) |
| LIB | 2.998* | 1.268 | 2.162 | 1.306 | 3.816 |
|  | (1.25) | (0.90) | (2.23) | (1.71) | (3.67) |
| $R^2$ | 0.10 | 0.04 | 0.03 | 0.02 | 0.03 |

Notes: [a]Azerbaijan and Tajikistan were not dropped from the regression. Standard errors are in parenthesis. * denotes significance at the 5% level.

**Table 4: The Impact of Trade Liberalisation on Economic Performance (Dropping the Period during Liberalisation)**

|  | $\Delta$GDP/ Capita[a] | $\Delta$GDP/Capita | Import/GDP | Export/GDP | Trade/GDP |
|---|---|---|---|---|---|
| $\alpha$ | -1.804 | -0.262 | 32.881* | 22.851* | 55.730* |
|  | (1.12) | (0.49) | (1.97) | (1.74) | (3.50) |
| LIB | 4.447* | 2.355* | 3.785 | 3.180 | 6.966 |
|  | (1.58) | (0.69) | (2.76) | (2.45) | (4.92) |
| $R^2$ | 0.26 | 0.36 | 0.09 | 0.08 | 0.09 |

Note: [a]Azerbaijan and Tajikistan were not dropped from the regression. Standard errors are in parenthesis. * denotes significance at the 5% level.

The result for the ratio of imports per GDP (column 3) is not as expected, as previous studies have shown that imports usually increase after liberalisation. It is expected that reductions in tariffs should have helped to increase imports, if not the exports of the countries, as tariff reductions should reduce the price of imported goods, unless these countries impose non-tariff barriers as a substitution for the tariffs. Another possible explanation is that the increase in real imports and

exports is slower than the increase in GDP, and hence there is not much change in the ratio. Given that there is no change in imports and exports per GDP, the improvement in GDP per capita may not be due to the dynamic gains from trade, as there is not much gain from trade.

As suggested by the BOP growth model, if the increase in the income elasticity of demand for imports is large, economic growth may be constrained in the long run. In the short and intermediate run, however, the increase in income elasticity of demand for imports may lead to a trade deficit if there is no commensurate increase in exports. Hence, a trade deficit after liberalization may indicate that, in the long run, economic growth will be constrained. Given the limitation of data availability, it is not possible to calculate income elasticity of demand for imports for the periods before and after liberalisation. To test whether trade liberalisation impacted GDP per capita through the constraint from balance of payments, we added interactive trade terms to the liberalisation dummy to the baseline model (9):

$$y_{it} = \alpha + \beta \, \text{LIB}_{it} + \delta \, \text{LIB*TRADE}_{it} + \mu_i + \nu_{it}, \qquad (10)$$

where TRADE is either imports per GDP, exports per GDP, trade per GDP or the difference between exports and imports per GDP (trade balance). Given that the effect on the growth of GDP per capita is not immediate, we drop the period during liberalisation for the regressions. Table 5 reports the results. It shows that the interactive terms are important for explaining the GDP per capita in the countries. Table 5 shows that, for liberalisation to affect GDP per capita, there needs to be an increase in trade, including both exports and imports. However, the interaction between trade balance and liberalisation is not significant. This does not support the BOP model, at least for the intermediate term.

**Table 5: The Impact of Trade Liberalisation on the growth of GDP/Capita**

| | Interactive dummy used | | | |
|---|---|---|---|---|
| | Import/GDP | Export/GDP | Trade/GDP | Trade Balance/GDP |
| $\alpha$ | -0.493 | -0.486 | -5.914* | -0.480 |
| | (0.46) | (0.46) | (1.34) | (0.50) |
| LIB | 0.484 | 1.017 | 1.889* | 1.958* |
| | (1.21) | (1.06) | (0.53) | (1.05) |
| LIB*TRADE | 0.057* | 0.060* | 0.097* | -0.058 |
| | (0.03) | (0.03) | (0.02) | (0.07) |
| $R^2$ | 0.51 | 0.50 | 0.69 | 0.43 |

Note: Azerbaijan and Tajikistan were dropped from the regression. Standard error in parenthesis. * denotes significance at the 5% level.

## 5. Conclusion

The study shows that the trade liberalisation process in the OIC member countries has improved the growth of GDP per capita especially in the medium term, however it has not improved imports, exports and total trade. Even though, the impact of trade liberalisation on trade is not significant, the factors that determine whether trade liberalisation will improve GDP per capita is whether the trade liberalisation process improved exports and imports. If the liberalisation process failed to improve trade, the liberalisation process would not be successful in improving OIC member countries' GDP per capita.

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## Appendix: Liberalisation Date

|    | Country | Year Uninterrupted Openness Began | Date joining WTO |
|----|---------|-----------------------------------|------------------|
| 1  | Albania | 1992 | 8/9/2000 |
| 2  | Algeria | n/a | n/a |
| 3  | Azerbaijan | 1995 | n/a |
| 4  | Bangladesh | 1996 | 1/1/1995 |
| 5  | Benin | 1990 | 22/2/1996 |
| 6  | Burkina Faso | 1998 | 3/6/1995 |
| 7  | Cameroon | 1993 | 13/12/1995 |
| 8  | Chad | n/a | 19/10/1996 |
| 9  | Cote d'Ivoire | 1994 | 1/1/1995 |
| 10 | Egypt | 1995 | 30/6/1995 |
| 11 | Gabon | n/a | 1/1/1995 |
| 12 | Gambia | 1985 | 23/10/1996 |
| 13 | Guinea | 1986 | 25/10/1995 |
| 14 | Guinea-Bissau | 1987 | 31/5/1995 |
| 15 | Guyana | 1988 | 1/1/1995 |
| 16 | Indonesia | 1970 | 1/1/1995 |
| 17 | Iran, Islamic Rep. | n/a | n/a |
| 19 | Jordan | 1965 | 11/4/2000 |
| 20 | Kazakhstan | n/a | n/a |
| 21 | Kyrgyz Republic | 1994 | 20/12/1998 |
| 22 | Malaysia | 1963 | 1/1/1995 |
| 23 | Mali | 1988 | 31/5/1995 |
| 24 | Mauritania | 1995 | 31/5/1995 |
| 25 | Morocco | 1984 | 1/1/1995 |
| 26 | Mozambique | 1995 | 26/8/1995 |
| 27 | Niger | 1994 | 13/12/1996 |
| 28 | Nigeria | n/a | 1/1/1995 |
| 29 | Pakistan | 2001 | 1/1/1995 |
| 30 | Senegal | n/a | 1/1/1995 |
| 31 | Sierra Leone | 2001 | 23/7/1995 |
| 32 | Somalia | n/a | n/a |
| 33 | Syrian Arab Republic | n/a | n/a |
| 34 | Tajikistan | 1996 | n/a |
| 35 | Togo | n/a | 31/5/1995 |
| 36 | Tunisia | 1989 | 29/3/1995 |
| 37 | Turkey | 1989 | 26/3/1995 |
| 38 | Turkmenistan | n/a | n/a |
| 39 | Uganda | 1988 | 1/1/1995 |
| 40 | Uzbekistan | n/a | n/a |
| 41 | Yemen, Rep. | Always | n/a |

Source: Wacziarg and Welch (2008) and www.wto.org
n/a not applicable