

## IMPACTS OF GLOBALIZATION ON INDUSTRIAL GROWTH: Evidence from KOF Globalization analysis for Asian countries

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### SUMMARY

Among the biggest dilemmas developing countries face is a hard questions "Should they open their economies up to the globalization process or adopt a cautious approach to avoid risks?". There are fears that globalization would lead to global competition, environmentally damaging production and consumption patterns, high labour unemployment rates and such other fears as loss of local control over domestic economic programmes, as well as de-industrialization. Hence, in this paper, the author evaluated impacts of globalization on industrial growth by numerous quantitative analysis using Fixed and Random Effect Estimation with sample data from 33 Asian countries within 23 years (1990-2012) following the Cobb-Douglas model and KOF globalization analysis. This suggested that increasing the level of integration with the rest of the world would have negative impacts on industrial growth, while FDI enterprises still hold irreplaceable role. Bases on these analyses, this paper suggests some useful solutions to Vietnam's government for industrial development strategies. Governments need good preparation in long-term, focus on improve both labor skills and academic performance, invest on technology, R&D, enhancing management capacity and attract more effective FDI projects.

**Keywords:** *Globalization, Industrial Growth, Cobb-Douglas model, KOF globalization, Foreign Direct Investment*

### INTRODUCTION

Al-Rodhan et al. (2006) and Albrow et al. (1990) defined globalization is the process of international integration arising from the interchange of world views, products, ideas and other aspects of culture. Globalization broadly refers to the expansion of global linkages, the organization of social life on a global scale, and the growth of a global consciousness, hence to the consolidation of world society [3] [1].

In term of economic aspect, globalization can create new opportunities, new ideas, and open new markets that an entrepreneur may have not had in their home country. As a result, it creates greater opportunities for firms in less industrialized countries to tap into more and larger markets around the world. Further, this can lead to more access to capital flows, technology, human capital, cheaper imports and larger export markets. Hence, it allows businesses in less industrialized countries to become part of international production networks and supply chains that are the main

conduits of trade. For example, GDP per East Asia increased by eightfold and raised millions of people out of poverty, was based largely on globalization and closing the technology gap with industrialized countries (Stiglitz, 2002) [19]. Generally, economies that globalize have higher growth rates than non-globalizers (Bhagwati and Srinivasan, 2002) [6].

But other side, the growth of international trade is exacerbating income inequalities, increasingly dominated by transnational corporations which seek to maximize profits without regard for the development needs of individual countries or the local populations, more risks of banking and currency crises (especially in countries with weak financial institutions) and competition among developing countries to attract foreign investment leads to a "race to the bottom" in which countries dangerously lower environmental standards, high unemployment rate and de-industrialization (Don McCubbrey, 2015) [9].

As a result, among the biggest dilemmas developing countries, where their industry has

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just begin their innovation, must face is a hard questions “Should they open their economies up to the globalization process or adopt a cautious approach to avoid risks?”

#### LITERATURE REVIEW

AlhajiAhmadu Ibrahim (2013) mentioned that scientific and technological forces unleashed by globalization have facilitated the extinction of the indigenous development of technology and distorting patterns of production in Africa. However, Globalization has eased international trade and commerce, facilitated foreign investment and the flow of capital, which are very important with industry growth [2].

Simon Roberts and John T. Thoburn (2004) explained how globalization affecting textiles industry in Africa. Their results showed that many South African textile firms have turned to increasing exports in order to maintain capacity utilization and profits in the face of declining market shares at home. But a fall in average rates of protection conceals the fact that protection has fallen more for items heavily protected in the previously highly dispersed protective structure. And his main point is that trade liberalization and exporting are not necessarily platforms for growth [18].

Belal Ahmed (2001) evaluated Impact of Globalization on the Caribbean Sugar and Banana Industries. The results referred that the region faced lots of challenges in global era through developing proper policies and their implementation. are a result of lack of increased production and productivity, absence of economies of scale of production, continued labor problems and its high cost, slow pace of crop diversification, few value added products developed, higher cost of inputs resulting from currency liberalization, low levels of technology used in the production systems, and inadequate research and development support. The industries short-term survival strategy should aim at addressing the above concerns at the earliest possible time [5].

With telecom industry, Muhammad Akram Ch. et al. (2012) concluded that the globalization has resulted in ending up the monopolistic regime in telecom sector in Pakistan and has increased the competition to many folds. As a result, globalization has brought very positive impacts on the Telecom Sector of Pakistan [16].

Moekotte, Wouter and SilkeFreye (2008) explained the impact of globalization on SMEs in their master thesis. the tourism industry, like many other industries, tends to consolidate and the question of how SMEs manage the competition is intriguing. Besides larger competitors with visible, physical premises, other processes related to globalization are presenting SMEs with both opportunities and threats. In any case, the long term viability of SMEs in the local tourism industry is at stake and this study covers, among others, what strategies are deployed by SMEs to remain profitable and competitive [15].

Beside labor force and capital, Anyanwu (2011) surveyed the aid-growth literature in an empirical study of the effects of foreign aid on Africa’s economic growth [13]. On the other hand, Fayissa and Nsiah (2011) find that ODA has a negative but insignificant effect on growth in Sub-Sahara countries. It is also posited that foreign direct investment (FDI) is a primary source of technology transfer and economic growth [7]. Baliamoune (2009) find that openness to trade seems to have positive effects in African countries with higher income and negative effects in lower income ones [14]. Also, Arezki and Gylfason (2011) use a dataset of 158 countries during the period 1970–2007 and find that trade openness has a positive and statistically significant impact on non-resource GDP growth [4].

#### THE MODEL

##### Model specification

Cobb - Douglas function is widely used in economics to determine factors affecting growth. Advantages of this function is to

explain relationship between outputs and inputs in economic activities in both micro and macro-economics (Cobb, C. W.; Douglas, P. H., 1928) [8]. Based on the foregoing literature, the author use the panel data to determine relationship between globalization and industrial growth:

General Cobb-Douglas function:

$$IG_{it} = F(X) = b_0 \times GL_{it}^{b_1} \times LF_{it}^{b_2} \times CF_{it}^{b_3} \times FDI_{it}^{b_4} \times e^{it}$$

Using transformation by logarithm both side of equation, we have:

$$\ln IG_{it} = \ln b_0 + b_1 \ln GL_{it} + b_2 \ln LF_{it} + b_3 \ln CF_{it} + b_4 \ln FDI_{it} + u_{it}$$

In which,

$IG_{it}$  is industrial growth of country  $i$  at the time  $t$

$GL_{it}$  is KOF Globalization index<sup>1</sup> of country  $i$  at the time  $t$

$LF_{it}$  is labor force of country  $i$  at the time  $t$

$CF_{it}$  is capital force of country  $i$  at the time  $t$

$FDI_{it}$  is inflows foreign direct investment of country  $i$  that the time  $t$

### Methodology

Typically, cross-sectional data was analyzed by OLS estimation. But our paper uses a panel data framework with combination between time series and cross-section observations. This method will give more variability and reduce the multicollinearity. Hence, in this case OLS estimate will be biased.

Thai (2006), Heo and Doanh (2009), Nguyen (2010) and many other studies deal with this problem by using Fixed and Random Effect

estimations. If unobserved effects are uncorrelated with all the explanatory variables, Random Effects estimation is better, while Fixed Effects estimation is more appropriate in another case [12] [17] [20]. The question which is better between two estimators will be answered by the Hausman test (1978) [11]. Nevertheless, two method have different advantages. The Fixed Effects model allows for country-pair heterogeneity and gives each country-pair its own intercept. On other hand, the Random Effects model can be incorporate differences between cross-sectional entities by allowing the intercept to change, as in the fixed effects model, but the amount of change is random. The advantage of random effects model is that both time-series and cross-sectional variations are used.

In this paper, the author use both techniques to explained clearly how globalization affecting industrial growth.

### Data sources

Data on industrial growth, labor force, capital force and inflows FDI was taken from World Bank from year 1990-2012.

Data on KOF Globalization index was collected from KOF Swiss Economic Institute.

The paper did research bases on data of 33 Asian countries from 1990-2012 including: United Arab Emirates, Armenia, Azerbaijan, Bangladesh, Belarus, Brunei Darussalam, Bhutan, China, India, Jordan, Japan, Kazakhstan, Kyrgyz Republic, Cambodia, South Korea, Lebanon, Sri Lanka, Moldova, Mongolia, Malaysia, Nepal, Pakistan, Philippines, Qatar, Russian Federation, Saudi Arabia, Singapore, Syrian Arab Republic, Thailand, Tajikistan, Uzbekistan, Vietnam, West Bank and Gaza.

### EMPIRICAL RESULTS AND DISCUSSION

The author estimates the Cobb-Douglas over the period of 23 years, from 1990 through 2012 with other 33 Asian countries. The result was explained as below table:

<sup>1</sup> The KOF Index of Globalization measures the three main dimensions of globalization: Economic, social and political. In addition to three indices measuring these dimensions, we calculate an overall index of globalization and sub-indices referring to actual economic flows, economic restrictions, data on information flows, data on personal contact and data on cultural proximity, online at <http://globalization.kof.ethz.ch>.

**Table:** Regression results for pooled data with industrial growth

Independent variables	LnIG <sub>it</sub>			
	Fixed Effects Estimation		Random Effects Estimation	
	Coef.	z-statistic	Coef.	z-statistic
LnGL <sub>it</sub>	-.816884 <sup>c</sup>	-1.84	-1.091554 <sup>a</sup>	-3.74
LnLF <sub>it</sub>	-.45802	-1.56	-.070221	-1.28
LnCF <sub>it</sub>	.2257287 <sup>c</sup>	1.93	-.0629296	-1.15
LnFDI <sub>it</sub>	.0781582 <sup>c</sup>	0.092	.1565002 <sup>a</sup>	4.03
Constant	5.521431	1.39	5.445808 <sup>a</sup>	5.65
No. of obs.	475/759		475/759	
R-Square	0.236		0.4192	

Note: a: Significant at the 0.01 level

b: Significant at the 0.05 level

c: Significant at the 0.1 level

Other: Not significant

According to result of regression, lots of interesting argument were draw. Firstly, in both method, quantity of labor force did not influence to industrial growth in Asia. In fact, Asia is the place that has lots of young and un-skill labors compare with other continents over the world. While European and America are now facing with aging population issue, they need a lot of labor force, both skill and un-skill labors. They can provide training programs for un-skill labors. But in Asia, with high birth rate, amount of labors are not problem at all. It seems that quality of labor is the key point for industrial growth. This recommends that government of Asia countries should focus on providing both vocational and academic training programs for their labor force. These will help them more easily to adapt with new professional working environment.

Secondly, it seem that capital is not the main problem of industry in Asia. This will be reasonable to determine different prospects. One side, developed and intermediate countries such as Japan, South Korea, Russia and so on with lots of capita will hold key role of FDI investors to others countries over the world. Capital is definitely not their problem. Other side, developing and under-

developing countries are places that state-own enterprises worked not well, industrial growth depends on FDI sectors. Hence, capital is not their problem, since it will come from investors. More important, effect of investment capital is more important than total amount of capital in entire country.

Thirdly, as the same result with Anyanwu (2011), FDI hold irreplaceable role for development of economy, including industrial growth. According to result of the regression, when FDI inflows 100 percent will lead an increase of 15.65 percent of industrial growth with Random Effect and 7.816 percent with Fixed Effect estimators. However, as we know, FDI is always a “bad guy” with environment. Hence, government need to be very selective with FDI projects and have reasonable regulations that will be still attractive with foreign investors and prevent pollution.

Finally, not familiar with our expectation, globalization have negative impacts on industrial growth. It is clear that globalization would lead to global competition, loss of local control and support over domestic economic programmes. Hence, low competitive enterprises will get hurt from new international environment when facing with

fierce fighting with global cooperation. More dangerous, most of Asian countries are developing and under-developing countries, so competitive capacity of domestic firms completely weak. As a result, in entire country, FDI companies will become stronger, while domestic producers are worse and even bankrupt. This result is also similar with Fayissa and Nsiah (2010) when they work on Sub-Sahara countries.

### CONCLUSIONS

Our question, whether we should open economy or adopt a cautious approach to avoid risks, is not easy to answer since there are lots of different results and opinions among economists. However, with developing and under-developing countries such as Asia area, we can conclude that globalization had a negative impact on industrial growth, while FDI enterprises still hold the key role of development. The results of this paper recommend that successful integration in global era will come if governments have good preparation in long-term, focus on improve both labor skills and academic performance, invest on technology, R&D, enhancing management capacity and attract more effective FDI projects.

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TÓM TẮT  
**ĐÁNH GIÁ TÁC ĐỘNG CỦA TOÀN CẦU HÓA ĐỐI VỚI TĂNG TRƯỞNG  
KINH TẾ: MINH CHỨNG TỪ PHÂN TÍCH CHỈ SỐ TOÀN CẦU HÓA  
CỦA CÁC NƯỚC CHÂU Á**

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Một trong những câu hỏi khó khăn mà các nước đang phát triển phải đối mặt là "Nên mở cửa nền kinh tế toàn cầu hóa hay là tiếp cận thận trọng để tránh rủi ro?". Thực tế, có nhiều lo ngại rằng toàn cầu hóa sẽ dẫn đến cạnh tranh toàn cầu, phá hủy môi trường, tỷ lệ thất nghiệp cao cũng như những lo ngại khác là sự mất kiểm soát của chính phủ các nước đối với các chương trình kinh tế trong nước, cũng như phi công nghiệp hoá. Để trả lời cho câu hỏi này, trong bài báo này, tác giả đã đánh giá tác động của toàn cầu hóa đối với tăng trưởng công nghiệp bằng phương pháp phân tích định lượng hồi quy hiệu ứng ngẫu nhiên và hồi quy hiệu ứng cố định với dữ liệu từ 33 quốc gia châu Á trong vòng 23 năm (1990-2012) theo mô hình Cobb-Douglas và chỉ số toàn cầu hóa KOF. Kết quả bài báo cho thấy rằng, tăng cường hội nhập với phần còn lại của thế giới sẽ có những tác động tiêu cực đến tăng trưởng công nghiệp, trong khi các doanh nghiệp FDI vẫn giữ vai trò không thể thay thế. Căn cứ vào những phân tích này, bài viết này đề xuất một số giải pháp hữu ích cho chính phủ Việt Nam đối với các chiến lược phát triển công nghiệp. Theo đó, chính phủ cần phải có sự chuẩn bị kỹ càng trong dài hạn, tập trung vào việc nâng cao trình độ, kỹ năng cho người lao động, đầu tư vào công nghệ, R&D, nâng cao kỹ năng quản lý cũng như thu hút các dự án FDI hiệu quả.

**Từ khóa:** *Tăng trưởng kinh tế, hội nhập, mô hình Cobb-Douglas, KOF, Đầu tư trực tiếp nước ngoài.*

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