

Impact of BIMP-EAGA on Mindanao Exports

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This paper examines the impact of Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA) initiative on Mindanao exports to Brunei, Indonesia, and Malaysia (BIM). Using an export demand model, results show a significant impact of EAGA on the volume of Mindanao exports to Brunei but not for Malaysia and Indonesia. Exports to BIM are generally dependent on price. However, income elasticities are generally elastic which suggest increasing opportunities for Mindanao to export to BIM as per capita income improves in these countries.

The creation of the Brunei, Indonesia, Malaysia, Philippines-East ASEAN Growth Area (BIMP-EAGA) on March 26, 1994 in Davao City, Philippines started an impetus to further accelerate economic growth in Mindanao particularly in terms of trade and investment. The EAGA, patterned after the Singapore, Indonesian province of Riau, and the Malaysian state of Johor (SIJORI) growth triangle, aims to strengthen cross border cooperation in the areas of trade, investment, and tourism. This is envisioned to happen through freer movement of people, goods, and services, expansion of the subregion's market and resource base, rationalization of the development of vital infrastructure in the subregion and coordination in the management of ecosystems and common resources to ensure sustainable development (MEDCO, 1998).

Covering an area of about 1.54 million sq km, BIMP-EAGA is Asia's largest regional grouping. It has a combined population of about approximately 50 million which is considered as a major market for products manufactured from the subregional economic zone. It encompasses the whole sultanate of Brunei; the provinces of South, North, Central, and Southeastern Sulawesi, East and West Kalimantan, Maluku, and Irian Jaya of Indonesia; Labuan, Sabah,

and Sarawak of Malaysia; and Mindanao and Palawan islands of the Philippines.

EAGA is seen to grow through a market-driven economy, where the private sector is seen as the prime mover. Its organizational structure is decentralized, devoid of a central secretariat and where bilateral and trilateral arrangements are allowed (EABC, 1998; Dominguez, 1994). In the face of today's epoch of globalization and economic cooperation, EAGA is consistent with economic policies and agreements between members of the ASEAN in the implementation of AFTA. Economists opined that EAGA could even be the testing ground for AFTA's Common Preferential Trading Agreement (CEPT). The functionality of this growth area likewise falls within the framework of APEC and WTO (EABC, 1998).

This economic cooperation serves as a key strategy towards accelerating socioeconomic growth, particularly in the less developed regions of the participating countries. For Mindanao and Palawan islands, the scheme is significant as it allows cross-border trade. Thus, goods can now be shipped without passing the national capital at a cheaper and more profitable rate. Davao City, for example, is closer to Sabah than Cebu. Likewise, Mindanao's strategic location within the East ASEAN region, almost equidistant to the eastern sections of Indonesia, Malaysia and Brunei Darussalam, underscores the island's potential to be a major transshipment point and center of trade in the region (MEDCO, 1998). Although Mindanao and Palawan are the focus areas, the entire country also stands to benefit (Regalado, 1996).

Some trade barriers affecting the EAGA region have been addressed through the establishment of direct sea and air linkages, liberalized landing rights, and uniform port tariff agreements. These are expected to cut down travel time and transaction costs which will consequently increased trade in the island (MEDCO, 1998). Agricultural exports are expected to increase since majority of Mindanao's exports are agricultural.

This paper examines the impact of Mindanao's participation in the BIMP-EAGA on its export industry. It also identifies factors that affect export performance and explores policy implications based

on the results. It should be noted that the study does not cover the reinvigoration efforts being pursued by the four governments which started in 2000 after experiencing a slowdown during the Asian financial crisis in 1997 until the time of Estrada administration in 2000. This paper is organized as follows. Economic integration and growth areas are discussed in the second section. The theoretical framework is presented in third section, followed by a discussion on model estimation in section four. Mindanao and BIMP EAGA exports are discussed in section five. The impact of BIMP-EAGA is examined in section six. Finally, concluding comments are presented in section seven.

Economic integration and growth areas

The last two decades of the 20th century witnessed a shift in the international economic environment. The world economy has become increasingly open and integrated, and global economic integration today is seen to intensify (Intal and Basilio, 1998). The pattern and pace of economic integration are influenced by three fundamental factors, namely: improvements in the technology of transportation and communication, tastes of individuals and societies, and public policies (Mussa, 2000). However, according to Onguglo and Cernat (2000) as cited by Austria (2001), an assumption that underlies economic integration is that participating economies have already achieved a high level of competitiveness and maturity in their production structures to withstand regional and global competition.

In the face of globalization, regional cooperation therefore becomes an option to spur economic activity, improve efficiency, heighten competition, attract investments and technology, and thus create jobs (Severino, 2002). Furthermore, regional integration and multilateral cooperation provide a country the opportunity to penetrate a larger market (Austria, 2001).

The economic dynamism in Asia under the General Agreement on Tariffs and Trade (GATT)-World Trade Organization (WTO) multilateral trading regime, along with the end of the cold war,

opened the borders among contiguous areas of trade and investment. A new type of regional cooperation and integration called “growth triangles”²² then flourished (Kakazu, 1998).

What is a growth triangle? A concept unique only to Asia, the growth area is a strategy developed and employed in the late 1980s to accelerate economic development in identified areas. Although underpinned by strong political motivations, it is primarily an economic concept. This model involves linking adjacent areas of countries with different endowments of factors of production—like land, labor, and capital—and different sources of comparative advantage, to form a region of economic growth. Growth triangles seek to reduce regulatory barriers and exploit economic complementation in order to gain a competitive edge in attracting domestic and foreign investment, and to promote exports for the mutual benefit of the areas and countries involved.

A distinct element of a growth triangle compared to other formal integration efforts such as the European Union (EU) and even the ASEAN Free Trade Area (AFTA) is its market orientation. Growth triangles in Asia are seen to be effective in promoting open regionalism through intraregional trade and investment. Moreover, growth triangles are also helpful in narrowing if not closing the income and growth gaps between centers and peripheries (Kakazu, 1998). However, the Asian growth areas are confronting different problems and challenges reflecting the socio-politico-economic characteristics of the regions involved.

Furthermore, empirical studies reveal that the success of growth areas depends on economic complementarity, geographical proximity, political commitment, and infrastructure development (Kakazu, 1998; and Dominguez, 1994). However, these success factors do not work without private sector commitment. While growth areas are facilitated by governments, they must be private sector driven (Humphries, 1995).

Economic complementarity is critical in the development of growth triangles. For example, the Tumen Delta growth area exploits the capital and technology of Japan and the Republic of Korea with the natural resources of Russia and North Korea and the labor and

agricultural resources of China. In the SIJORI triangle, renowned to fit the classic growth triangle model of complementarity of factors, Singapore has provided capital and technology for developments in Malaysia. In fact, its achievements in generating strong growth in its component areas have stimulated other growth triangle initiatives in ASEAN, including the BIMP-EAGA. Another example is the Mekong Polygon where Thailand provides the capital and experience.

However, economies in EAGA are said to be competitive rather than complementary (Patalinghug, as cited in *Inquirer Mindanao*, 1996). Members of the growth area aside from being distant from capital states, are also less developed except for Brunei, and are agricultural and resource-based (Dominguez, 2002). Although they also share weak basic infrastructure, the main potential of the subregion seems to lie in its extensive but largely untapped reserves of natural resources.

Despite some criticisms, there have been positive developments such as establishment of direct air and sea linkages although some were suspended due to the financial crisis that hit Asia in 1997. Several studies have shown that economic integration and the elimination of trade barriers through special trade arrangements can certainly increase the level of exports. Will this hold true for EAGA? This paper attempts the empirical question of whether the participation of the Philippines in BIMP-EAGA has significantly increased its exports to the other member countries of the growth area. In what follows, some theoretical considerations in estimating the impact of economic integration on exports are discussed.

Theoretical framework

Demand and supply functions are derived from the assumption that firms minimize cost or maximize profit or individuals maximize utility subject to budget constraints. Aggregating the supply and demand functions of microeconomic units such as a firm or an individual and invoking the assumption of open trade under general equilibrium conditions yield export demand and supply

functions (Markusen et al., 1995). Thus, diversity in conditions of production, increasing returns to scale, differences in tastes, and comparative advantage are the reasons for international trade (Samuelson and Nordhaus, 1993; Krugman, 1980). For exports in particular, there are a number of factors that explain its performance. These include cost of transporting goods from country to country, trade policies, tastes of consumers for domestic and foreign goods, prices of goods at home and abroad and exchange rate (Mankiw 1998). On the other hand, Samuelson et al. (1993) argue that exports depend mainly on income and output of the trading partner/s as well as the relative prices of exports.

Mathematically, these above-cited factors can be expressed as:

$$Q = f (P, I, C, T, E) \quad (1)$$

where P is price, I is income, C is a vector of costs which includes production and marketing costs, T is a vector of policies on tariffs and nontariffs and E refers to exchange rate. Samuelson et al. (1993) further argue that trade policy directly influences the quantity of goods and services that a country imports or exports. This does not only take the form of tariffs and quotas but also special trading arrangements. BIMP-EAGA can be considered as a special trading arrangement as it includes provision of market information, reduction of trade barriers through the creation of Uniform Port Tariff Agreement or UPTA, border crossing points, travel tax exception, and direct sea and air linkages. These are all expected to increase exports. Hence, the creation of EAGA is expected to shift the Philippines export demand curve to the right as it expands market size. It can also shift supply curve to the right as it lowers marketing costs through direct sea and air linkages. Alternatively, lowering costs decreases price and increases demand for exports. These shifts in demand and supply curves are shown in Figure 1.

From equation (2) which includes both supply and demand factors affecting quantity traded, an export demand function can be specified. As such, factors include price, income and trade

policies

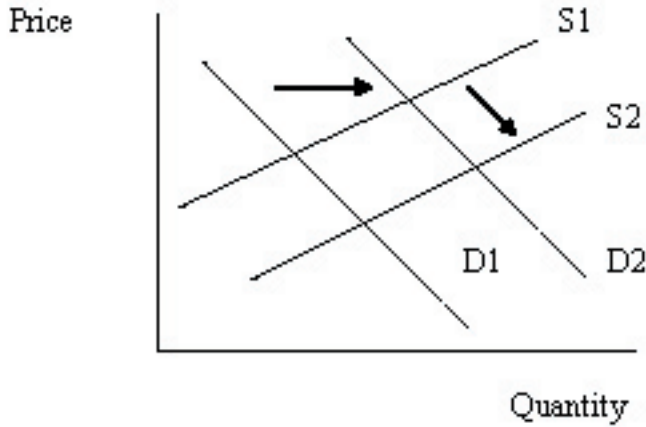


Fig. 1. Shifts in export demand and supply

represented by the creation of BIMP-EAGA:

$$Q = f(P, I, B) \quad (2)$$

where P and I are as previously defined and B represents the creation of BIMP-EAGA. The hypothesized relationship between each of the three variables and the quantity of exports demanded is as follows:

- price is inversely related to export demand
- income is positively related to export demand
- BIMP-EAGA is positively related to export demand

The overall framework in assessing the impact of BIMP-EAGA on exports of Mindanao to BIM is presented in Figure 2. In a nutshell, export performance of Mindanao to BIM is affected by supply and demand factors including policies that are envisioned to eliminate trade barriers to increase trade and investments within the growth area. Consumers in Brunei, Indonesia, and Malaysia will import based on price, their purchasing power, etc. However, price

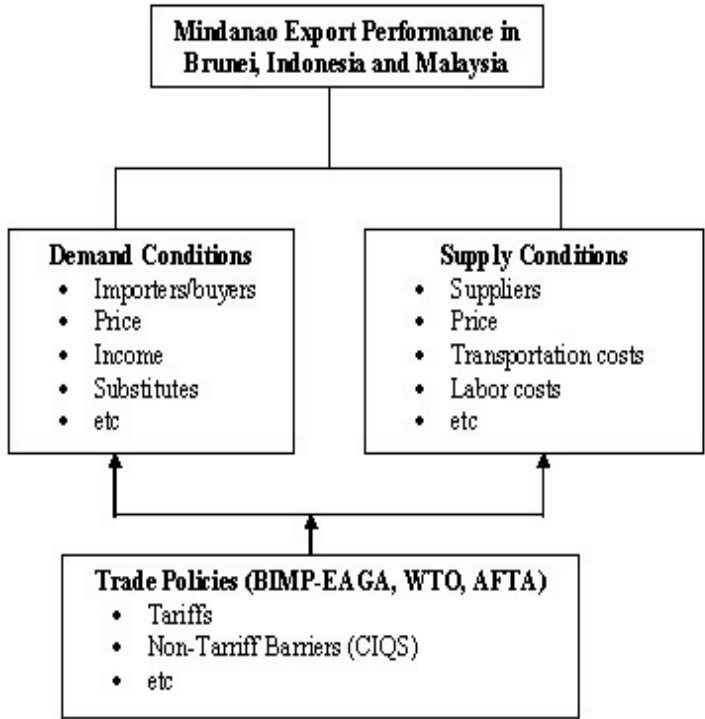


Fig. 2. Impact analysis of Mindanao export performance in BIM

will also depend on the costs of production, transportation, and other marketing costs. Finally, these supply and demand factors are affected by trade policies on tariff and nontariff barriers which are included in BIMP-EAGA arrangements.

Model estimation

Based on the above theoretical considerations, the empirical counterpart of equation (2) becomes:

$$Q_i = a - \beta_1 P_i + \beta_2 Y_i + \beta_3 D + \mu \tag{3}$$

where:

Q_j = the quantity demanded, in terms of volume (thousand tons) of country j (Brunei, Indonesia and Malaysia)

a = y intercept or the quantity demanded when P , Y , and D are equal to zero

P_j = average price in country j (000 \$)

Y_j = per capita income of country j (\$/person)

D = creation of BIMP-EAGA as a dummy variable, 0 before creation and 1 after creation

β_i , $i=1,2,3$ are coefficients which represent per unit change in Q given a per unit change in the independent variables P , Y and D . A significant β_3 implies a significant impact brought about by the creation of BIMP-EAGA

μ = error term.

From equation (3), the quantity of Mindanao exports that will be demanded by Indonesia, Malaysia, Brunei, and the aggregated BIM is depicted in the following equations:

$$Q_i = a - \beta_1 P_i + \beta_2 Y_i + \beta_3 D_i + \mu \quad (4)$$

$$Q_m = a - \beta_1 P_m + \beta_2 Y_m + \beta_3 D_m + \mu \quad (5)$$

$$Q_b = a - \beta_1 P_b + \beta_2 Y_b + \beta_3 D_b + \mu \quad (6)$$

$$Q_t = a - \beta_1 P_t + \beta_2 Y_t + \beta_3 D_t + \mu \quad (7)$$

where the subscripts i , m , b represent Indonesia, Malaysia and Brunei. Secondary data from 1991-2001 were used to estimate the model to examine the impact of BIMP-EAGA on Mindanao exports to Brunei, Indonesia, and Malaysia. SPSS version 11 was employed to estimate equations (4) to (7). It should also be noted that these equations can be estimated using seemingly unrelated regression (SUR). This was not, however, done since SPSS does not have this feature. Hence, unlike SUR where these equations are estimated simultaneously, equations (4) to (7) were estimated individually.

Coefficients were converted into elasticities by multiplying them with the ratio of the average value of the independent and

dependent variable except for Brunei where export demand model is estimated in logarithm. As such, the coefficient is already the elasticity.

Mindanao and BIMP EAGA Exports

Before estimating the impact of BIMP-EAGA on Mindanao exports through econometric analysis, it is important to examine Mindanao's overall trade performance during the past decade or so and its implications to the Muslim sector in Mindanao. BIMP-EAGA is seen to be an opportunity for the Muslim sector in Mindanao to trade with predominantly Muslim countries such as Brunei, Indonesia, and Malaysia.

Mindanao's trade performance

Exports proved to be a major source of growth for Mindanao economy. In fact, it cushioned the impact of the drastic decline in investments during the all-out war policy launched by the Estrada administration towards the end of 1999. Mindanao's overall economic performance during this period was better than the rest of the country with gross domestic product increasing by over 4%. This is due to the fact that while investments plunged exports soared. In other words, export performance did not depend on whether or not conflict exists. This can be attributed to the fact that production areas and other essential export facilities such as seaport and airports are located mostly in progressive and peaceful areas.

Total Mindanao exports reached about \$1.3 B in year 2000 which is only 3.41% of the country's total exports. Of the total exports of Mindanao, about 76% is accounted for by its top 10 exports. The top export in the list is fresh bananas which contributed about \$290 million or 22.34% of the island's exports. Next to banana is crude coconut oil contributing close to 22% or \$283 million of the total exports. Combining this export with the refined coconut oil which ranks third, total coconut oil exports sums up to about \$388 million or 44% of the total top ten exports. It is interesting to note that unlike banana, the coconut based exports come from all regions in Mindanao except CARAGA.

The top market for Mindanao is Japan which accounted for more than \$393 million or 30% of the island's exports in 2000 followed by United States with 25%. This implies that more than half of the island's exports go to these two markets. Thus, any changes in these markets affect Mindanao's foreign trade sector. Another significant market is Netherlands which contributed about 11% of the island's exports in 2000. About 20% of the total exports are shipped to Asian countries particularly China, Korea, Taiwan, Singapore, and Hongkong.

On the other hand, the share of the Muslim dominated areas particularly ARMM and Regions IX and XII is small compared to Regions X and XI. ARMM contributed only a meager 0.4% annually during this period. CARAGA, another poverty stricken region only accounted for 1.6% of the island's export. It is important to note as well, that the share of Regions XI and X to total exports in Mindanao may be overstated as there are some exports produced by Region XII or ARMM but were shipped in Region XI ports and therefore credited to Region XI and not to ARMM or Region XII.

Imports, on the other hand, came mostly from Region X that accounted for about 35% of the total imports of the island followed by Region XI of 34%. Region X's total exports is also substantial and hence, it managed to contribute positively to the total trade surplus of the island by an average of 2.35% annually. While Region XI ranks second in terms of imports, its exports are substantially larger than imports and hence it accounted for the bulk of the island's surplus at an average of 79% annually or around \$500 million dollars a year. Other regions such as Region XII and CARAGA posted trade deficits.

It does not imply, however, that a negative trade balance is bad for the economy. Majority of these imports form as inputs to industries thereby increasing the island's productive capacity and in turn, generate income for the economy. The bulk of Region X's imports, for example, comprised of raw materials for embroidery and garments industries. It also imports raw materials for its steel industry. However, large trade deficits put pressure on foreign exchange rate that might also affect inflation. Generally,

however, Mindanao generates over \$600 million dollar trade surplus contributing substantially to the country's trade surplus.

BIMP-EAGA and Mindanao's Muslim sector

It is worth noting that based on export figures, predominantly Muslim areas in Mindanao have not benefited much from the developments in the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA). The BIMP-EAGA region is largely populated by Muslims. About 70% of the 50 million people in this region are Muslims and yet, trading with their Muslim counterparts in Mindanao has not taken off. While this observation is based only on export figures, other economic indicators show that predominantly Muslim areas lag behind other regions which constrain them to effectively respond to the opportunities brought about by BIMP-EAGA.

Exports to BIM

Total exports to Brunei, Indonesia, and Malaysia (BIM) reached its peak in 1995 that amounted to \$78 million and plummeted to over \$7 million in 1999. While exports increased to \$42 million in 2000 from a low of \$7 million the previous year, this figure is below the average exports from 1994 to 2000 which is around \$46 million. Exports continually declined since it reached its peak in 1995 but the rate of decline is much larger than the decline in Mindanao's aggregate exports. The Asian financial crisis has contributed to the decline in exports to BIM region but the lack of government support under the Estrada Administration also contributed to the poor performance in exports. From 1994 to 2000, Mindanao's total imports from the BIM region is larger than exports which resulted to an average trade deficit of about \$10 million annually during this period.

Our main trading partner within this region is Indonesia accounting for more than half of the total trade in the region. Malaysia also contributed a substantial share with an averaged of 45% annually. However, unlike Indonesia, our imports from Malaysia are larger than our exports.

Figures 3 and 4 below show that the trend of Mindanao's total exports in terms of value and volume to Brunei, Indonesia, and Malaysia does not follow the trend of Mindanao's total exports. It should be noted that the total value and volume of exports shown in the graphs from 1991 to 2001 were converted into indices with 1991 as the base year to compare trends between total Mindanao exports and total Mindanao exports to EAGA or BIM. Total exports of Mindanao follow a stable trend from 1991 to 2001. On the other hand, the trend of total exports of Mindanao to BIM appears unstable. Exports to these countries increased immediately after the formal creation of BIMP-EAGA in 1994. However, exports declined two years after until it reached its lowest value in 1999. Reinvigoration efforts, which started in 2001, appear to be effective as exports increased from 2000 to 2001.

Impact of BIMP-EAGA

To assess the impact of the creation of BIMP-EAGA on Mindanao's exports to Brunei, Indonesia and Malaysia, average value and volume of exports before and after the creation of BIMP-EAGA were compared. Table 1 shows that the total exports to BIM increased by approximately 93% in terms and about 54% in terms of volume after the creation of EAGA. It is also interesting to note that Malaysia, on the average, accounted for 66% of the total value of exports before the creation of BIMP-EAGA but decreased its contribution to 44% after. On the other hand, Indonesia's share increased from 34% to about 56% in the same period. While Brunei's share increased significantly, its share is less than 1%.

Based on the above discussion, it appears that the creation of BIMP-EAGA has made a dent in improving export performance of Mindanao to Brunei, Indonesia, and the Philippines. However, as outlined in the framework presented in the third section, there are other factors aside from the creation of BIMP-EAGA that explains Mindanao's export performance in this growth area. These

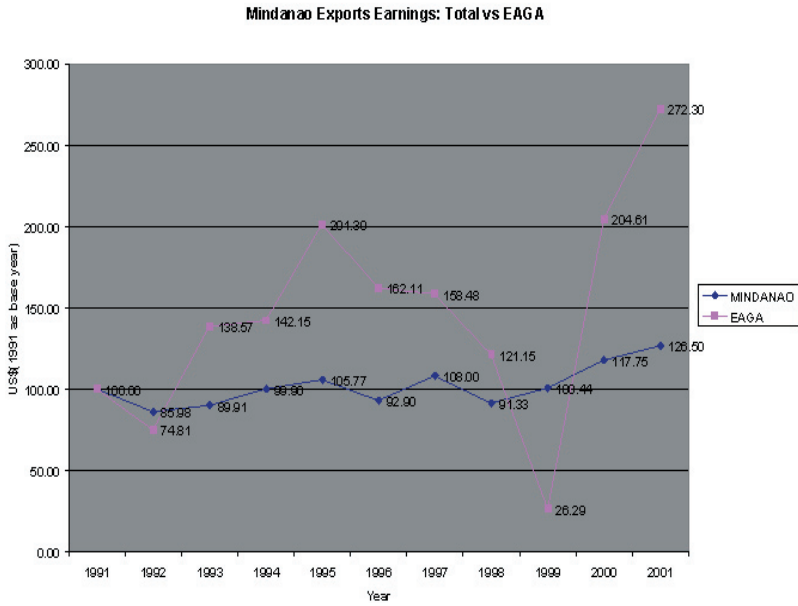


Fig. 3. Mindanao’s value of exports

include supply and demand factors such as price, income, production and marketing costs. In what follows, an export demand model (equations 4-7) is estimated for Brunei, Indonesia and Malaysia to account for variables such as price and per capita income.

Mindanao’s exports to Brunei, Indonesia and Malaysia as a whole, did not increase significantly due to the establishment of BIMP-EAGA as shown by the insignificant dummy variable representing BIMP-EAGA (Table 2). However, at 20% level of significance, the creation of BIMP-EAGA appears to increase exports. Of the three destinations for Mindanao’s exports, only Brunei seems to have benefited more than its counterparts from the initiatives of BIMP-EAGA as shown by a significant dummy variable at 1%. This is consistent with the comparison of both value and volume of exports before and after creation of BIMP-EAGA.

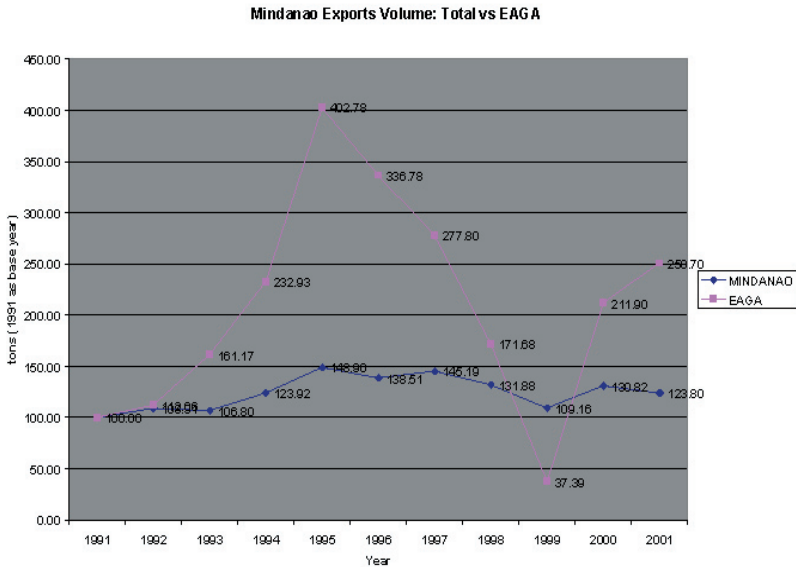


Fig. 4. Mindanao's volume of exports.

While value of exports to Brunei is less than 1% of the total exports to BIM, the growth rate is significantly higher than Indonesia and Malaysia. This result is expected as the variability or the changes in the demand for exports are being explained by the variability or changes in the independent variables in the econometric model. Hence, the rate of changes in the values of the variables is more important the absolute values. In addition, the dummy variables for Indonesia and Malaysia are insignificant which implies that BIMP-EAGA has no impact on exports of Mindanao to these two countries. The price variable for all four models estimated are significant and negative as expected based on theory. This implies that exports of Mindanao to these markets largely depend on the price of exports. Per capita income variable is significant for Indonesia and for the aggregate model for the three countries.

Table 1. Export performance of Mindanao to BIM, before and after EAGA creation

Exports	Before (1991-1993) (A)	After (1994-2001) (B)	% Growth Rate*
Ave. Value (US\$)			
Brunei	289	63,401	21,838.06
Indonesia	8,480,597	26,595,198	213.60
Malaysia	16,159,161	20,923,556	29.48
Total (BIM)	24,640,047	47,582,155	93.11
Ave. Volume (tons)			
Brunei	0.489	108	21,985.89
Indonesia	22,316	54,084	142.36
Malaysia	44,647	49,053	9.87
Total (BIM)	66,963	103,244	54.18

$$*((B-A)/A) \times 100$$

Converting coefficients to elasticities provides a standardized, unitless interpretation of the coefficients. Table 3 presents these elasticities indicating whether they are statistically significant or not. Absolute values of price elasticities that are less than 1 are inelastic and those greater than one are elastic. Generally, price elasticities are elastic except for Indonesia. For the total exports to BIM, price elasticity is 1.4 which means that quantity demanded increases by 1.4 percent or units given a one unit decrease in the price of export.

Table 2. Summary of econometric results

Variable	Malaysia		Indonesia		Brunei		BIM	
	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio
Dependent								
Volume								
Independent								
Ave. Price	-280.222	-2.437**	-50.291	-2.268*	-1.666	-2.302*	-292.139	
Pr Cap. GDP	37.173	1.347	71.938	2.234*	-6.738	-1.580	139.601	
Dummy	1.340	0.051	19.630	1.337	1.876	4.081***	38.270	
Constant	34.655	0.551	1.307	0.043	4.215	0.843	39.747	
Diagnostic								
R ²	0.484		0.681		0.778		0.506	
F		2.188		4.983**		8.178**		2.39
DW	1.439#		2.281##		1.422		2.331##	
Model Form	Absolute		Absolute		Logarithmic		Absolute	

* significant at 500 # No decision for a no + auto/serial correlation at both 0.01 and 0.05 significance level

** significant at 500 ## No. + serial/auto correlation at 0.01 significance level but no decision for a

*** significant at 100 no -auto/serial correlation at 0.05 significance level

Brunei is the most elastic. Income elasticity, on the other hand, shows that total exports to BIMP is income elastic. This implies that a unit increase in income will lead to a 1.68 units increase in

Table 3. Elasticities: Price, income and BIMP-EAGA				
Elasticity	Malaysia	Indonesia	Brunei	Total (BM)
Price	-2.69*	-0.64*	-14.0*	-1.4*
Income	2.93	1.30*	1275	1.68*

* Sugnificant at 10%

exports. Thus, there is an opportunity for Mindanao to export more to these countries as their income increases.

Export demand models for Indonesia and Brunei are both significant at 5% level while Malaysia and the aggregate model are significant at least at 18%. Given the limited data available to estimate the models, these results are reasonable. Please note that the relatively low R² values depicted in all four models, ranging from 48.4% (Malaysia) to 78.3% (Brunei), clearly implied that aside from price, income and the EAGA policy variables, there are other factors not considered in the models that explain the changes in the volume of Mindanao export to the said countries. Moreover, there were other functional forms that were estimated such as logarithmic and difference models but the results were not acceptable. The final models estimated used variables in levels (absolute values) except for Brunei where a logarithmic form was estimated. The final models used presented in Table 2 do not have problems on autocorrelation and multicollinearity. The former was determined through Durbin-Watson statistic and the latter was examined through the correlation matrix.

Concluding comments

This study focused on the impact of the BIMP-EAGA initiative on trade particularly on Mindanao's export to Brunei, Indonesia and Malaysia. Results based on the export demand model show that the creation of BIMP-EAGA has significantly increased Mindanao's exports to Brunei but not to Indonesia and Malaysia. It should be noted that without considering the impact of price and income on demand, average value and volume of exports to BIM increased substantially after the creation of EAGA. However, this increase was seen only a year after forming the EAGA. Continuous decline was experienced from 1995 to 1999. In fact, exports in 1999 was even much lower than exports before the creation of EAGA. Several factors contributed to this decline that include the Asian financial crisis, El Nino and lack of government support during the Estrada administration.

Results also reveal that the main factor influencing export demand is price. This is expected considering the nature of commodities traded and economies of the consuming markets. The bulk of exports is agri-based. With the exception of Brunei, Mindanao, Palawan, Sabah, Sarawak, Labuan, Kalimantan, and Sulawesi are at similar levels of development. In fact, according to Patalinghug (1996), labor-scarce but not necessarily capital-rich areas of Sabah, Sarawak, and Labuan weakly complement labor-surplus and mineral rich areas of Mindanao and Palawan.

While there are opportunities to expand exports in these markets as income increases as implied by elastic income elasticities, government support appears critical in accelerating trade and investment in the region. When aggressive government support was infused in the initial years of developing EAGA, some results were achieved but not when government support was lacking like during the Estrada administration. This is worrying for some analysts because it seems to support the argument that complementarity among economies is weak in BIMP-EAGA. Theoretically, it can be shown that weak complementarity due to homogeneity in factor endowments among participating economies in EAGA will lead to

failure. This fiasco may be minimized or averted with government support. But is this the way to go? Private sector remains to be the key engine of growth in the region.

However, the study of the Asian Development Bank identified 150 possible initiatives in EAGA where complementarities are possible. For example, the areas of labor and tourism were said to offer complementarities albeit encouraging movement from labor-surplus to labor-deficit regions could not be sustained because of weak complementarity in capital (Samson, 1996; Patalinghug, 1996).

Currently, the Asian Development Bank is supporting the thrust to develop the small and medium enterprises in the region as part of the reinvigoration program. This program is also dubbed as the consolidation stage where the focus is on expansion of markets (Pabia, 2003). That is, consolidating all the areas of commonalities in the growth area and then as a region, tap the markets of China, Japan, South Korea, and the Northern Territory of Australia. This approach appears promising as it basically addresses the issue of non-complementarity among countries in the growth area. Until this issue is addressed, bringing BIMP-EAGA into new heights of development may not be possible.

Notes

1. Associate Professor and research assistant, respectively, School of Management, UP in Mindanao.
2. Also known as “growth polygons” and “growth areas.”

References

- Appleyard, D., & Field, A. Jr. (1998). *International economics: Trade theory and policy*. Singapore: Irwin MacGraw-Hill.
- Asian Development Bank (ADB). EAGA Study, Vol. 1, 3, 4, 6.
- Azarcon, C. (1997). Comparative study of ASEAN tariff profiles. *PIDS discussion paper no. 97-20*.
- Bangko Sentral ng Pilipinas (BSP). (2002, December). *Selected*

- Philippines economic indicators*. pp. 58-59.
- BIMP-EAGA. (2002). <http://www.medco.gov.ph/bimp-eaga/bimp-eaga.htm>
- BIMP-EAGA Business Update*, 1 (6), 1-3.
- Brunei: Historical demographical data of the whole country. <http://www.library.uu.nl/wesp/populstat/Asia/bruneic.htm>
- Brunei data profile. <http://devdata.worldbank.org/external/CPProfile>.
- Brunei Darussalam—Statistical Appendix. (1997). IMF Staff Report No.97/113. <http://www.imf.org/external/pubs/ft/scr/1997/cr97113.pdf>
- Carillo, L. (1996). Davao rivalry mounts. *Business World*, IV, 42.
- Carillo, L. (1997). Rebuilding through EAGA. *Mirror Magazine*, 1 (17), 3 & 24.
- Dominguez, P. (1994, June 24-26). East Asian growth area: The Philippine view. Printout from speech delivered on the Fourth Southeast Asia Roundtable Economic Development (RED4) workshop, "Growth triangles in Southeast Asia: A strategy for development," Kuala Lumpur, Malaysia.
- Dominguez, P. (2002, August 2-3). Reinvigorating BIMP-EAGA. Printout from presentation on the 1st Market Tripartite Exchange (1st MTE_x), Davao City.
- Dureza, J. (2002, August 2-3). Mindanao economic situationer. Printout from presentation on the 1st Market Tripartite Exchange (1st MTE_x), Davao City.
- East Asian Business Council (EABC).
- Economy Brunei. (1996). http://cesimo.ing.ula.ve/GAIA/CIA/factbook/descriptions/Brunei__Economy.html
- Electronics Manufacturing in the Pacific Rim. (1997). Report from World Technology Evaluation Center (WTEC). http://www.wtec.org/loyola/em/02_07.htm.
- Forging Direct Trade Links Amidst the Crisis. 1998. (Mimeo)
- Gluckman, R. (1997). New growth circles: The last frontier. *Asia Inc.*, 37-43.
- Growth with Equity in Mindanao (GEM) Program. Database.1991-2000.

- GEM. (2002, March). Indicators baseline report update. Vol. 1 &2.
- Gujarati, D. (1995). *Basic econometrics* (3rd ed.). Singapore: McGraw-Hill Book Co.
- Humphries, A. M. (1995). Growth triangles of Southeast Asia. East Asia Analytical Unit. http://http://www.dfat.gov.au/publications/pdf/growth_triangle_exsum.pdf
- Indonesia: Historical demographical data of the whole country. <http://www.library.uu.nl/wesp/populstat/Asia/indonesc.htm>
- Indonesia data profile. <http://devdata.worldbank.org/external/CPPProfile>.
- Inquirer Mindanao*. (1996, August 16). pp. 2, 5.
- Interactive CIA World Factbook. (1996). http://www.theodora.com/wfb/wfb_1996.html
- Intal, P., & Basilio, L. (1998). The international economic environment and the Philippine economy. PIDS Discussion Paper, No. 98-25.
- Kakazu, H. (1998). Growth triangles in ASEAN: A new approach to regional cooperation. *Regional Development Studies*, 4, 1-36.
- Krugman, P. (1980, December). Scale economies, product differentiation, and the pattern of trade. *American Economic Review* 70 (5), 950-959.
- Lantican, F. (1999). The inter-island shipping industry in Mindanao: Status, cost, structure, and policy direction.
- Malaysia: Historical demographical data of the whole country. <http://www.library.uu.nl/wesp/populstat/Asia/malaysic.htm>
- Malaysia data profile. <http://devdata.worldbank.org/external/CPPProfile>.
- Mankiw, G. (1998). *Principles of macroeconomics*. USA: The Dryden Press, Harcourt Brace College Publishers.
- Mendoza, E. (2002, August 8-9). BIMP-EAGA customs-immigration-quarantine-security (CIQS) initiative. Printout from presentation on the 10th Senior Officials Meeting (SOM), Manado City, Indonesia.
- Mindanao. (2002). <http://www.medco.gov.ph/mindanao/mindanao.htm>

- Mindanao Economic Development Council (MEDCO). Development Statistics. 2000 - 2002 editions.
- Musa, M. (2000). Factors driving global economic integration. Paper presented in Jackson Hole, Wyoming at a symposium sponsored by the Federal Reserve Bank of Kansas City on "Global Opportunities and Challenges."
- National Statistics Coordinating Board (NSCB). (1993). Philippine standard commodity classifications. Revision 2.
- National Statistics Office (NSO) XI. Mindanao's Trade Relations with the World: 1991-1995.
- NSO. (2001). Raw on trade.
- NSO. (2001). Figures that matter in Mindanao.
- Pabia, J. (2003, February 28). Senior Economic Development Specialist and Coordinating Person for P-EAGA Air Linkages. (Personal interview)
- Pugel, T., & Lindert, P. (2000). *International economics* (11th ed.). USA: Irwin McGraw-Hill Companies, Inc.
- Regalado, R. (1996). Turning back the pages of history. *Business World*, IV, 42.
- Sachs, J., & Warner, A. (1995). Economic reform and the process of global integration. Brookings Papers on Economic Activity.
- Samson, M. (1996). EAGA study identifies 150 possible initiatives. *ADB Review*, 19-21.
- Samuelson, P., & Nordhaus, W. (1993). *Economics* (14th ed.). Manila: McGraw-Hill Book Company.
- San Pedro, W. (1998). The downward drift in ASEAN tariffs: Implications on Philippine trade. PIDS Policy Notes, No. 98-03. Recast and repackaged.
- San Pedro, W. (1998b). The international economic environment and the Philippine economy. PIDS Policy Notes, No. 98-04. Recast and repackaged.
- Sarfati, G. (1997). Trade relations between the MERCOSUR and the European Union. <http://www.geocities.com/athens/forum/8502/MERCOEU1.DOC>
- Severino, R. (2002, May 30). Globalization's challenges to regional economic integration. Printout of address at the Symposium on

- AFAT and Beyond, sponsored by the ASEAN Secretariat, the Makati Business Club, and the US-ASEAN Business Council.
- Solana, B. (2003, February 28 & March 14). Senior Economic Development Specialist and Coordinating Person for P-EAGA Sea Linkages. (Personal interview)
- Sopiee, N. (1994). Economic integration and economic cooperation in Pacific Asia. *East Asia Centre for Economic Cooperation*. Opinion Paper 1:12.
- Total GDP (Nominal). <http://www.asean.jp/general/statistics/statsitics03/01basic/05-01.html>
- Trade. <http://www.econ.worldank.org/research/trade/archive>.